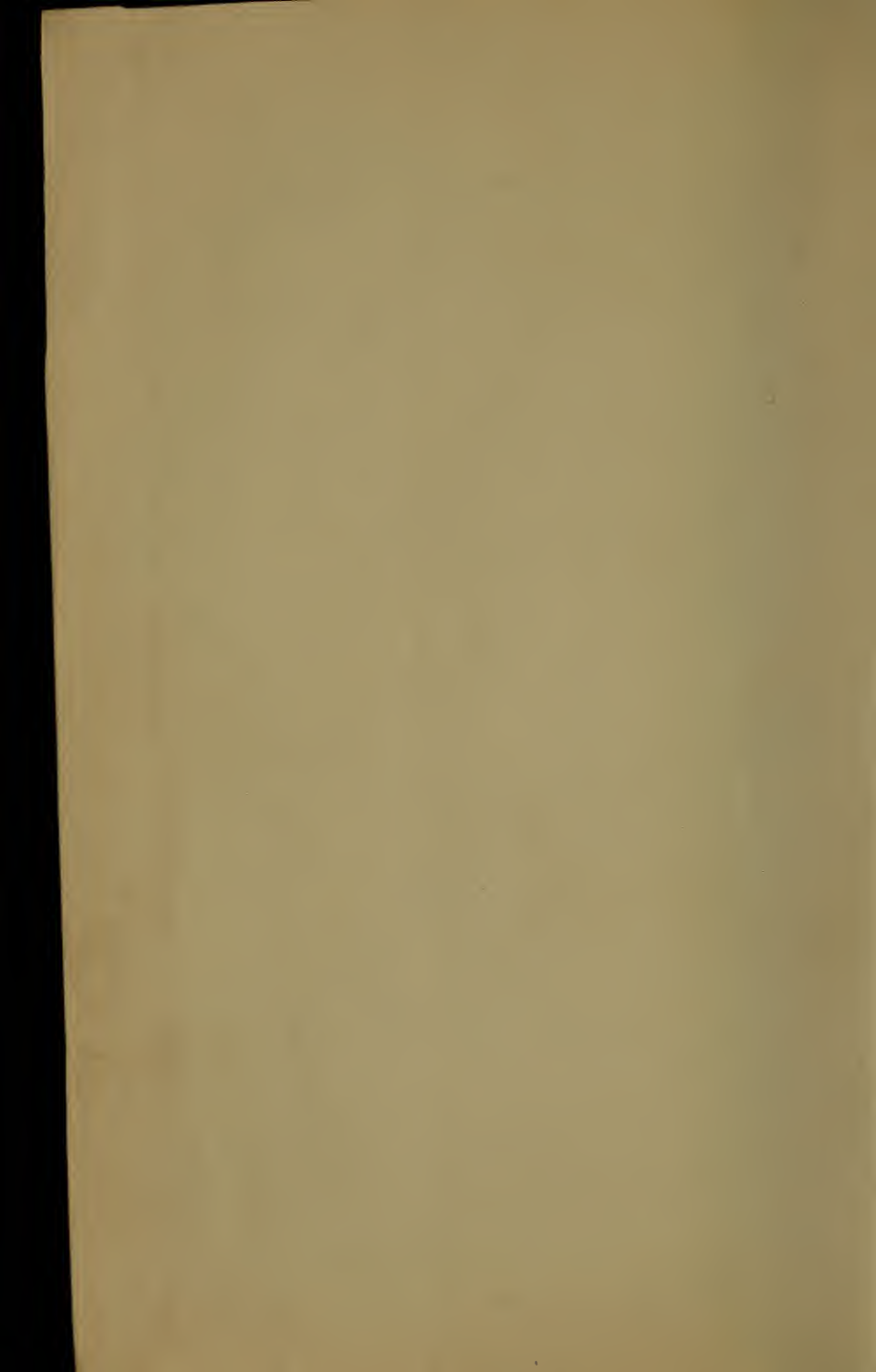


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HABITS THAT HANDICAP



HABITS THAT HANDICAP

THE REMEDY FOR
NARCOTIC, ALCOHOL, TOBACCO AND
OTHER DRUG ADDICTIONS

By
CHARLES B. TOWNS



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PREFACE

SOME years ago, Mr. Charles B. Towns came to me with a letter from Dr. Alexander Lambert and claimed that he had a way of stopping the morphia habit. The claim seemed to me an entirely impossible statement, and I told Mr. Towns so; but at Dr. Lambert's suggestion, I promised to look into the matter. Accordingly, I visited Mr. Towns's hospital, and watched the course of treatment there at different times in the day and night. I became convinced that the withdrawal of morphine was accomplished under this treatment with vastly less suffering than that entailed by any other treatment or method I had ever seen. Subsequently, I sent Mr. Towns several patients, who easily and quickly were rid of their morphia addiction, and have now remained well for a number of years.

At that time I had the impression that the treatment was largely due to the force of Mr. Towns's very vigorous and helpful personality, but when subsequently a similar institution was established near Boston, I became

convinced by observation of cases treated in that hospital that Mr. Towns's personality was not an essential element in that treatment. His skill, however, in the actual management of cases, from the medical point of view, was very hard to duplicate, and Mr. Towns generously came from New York, when called upon, and showed us what was wrong in the management of cases which were not doing well. I do not hesitate to say that he knows more about the alleviation and cure of drug addictions than any doctor that I have ever seen.

All the statements made in this book, except those relating to tobacco, I can verify from similar experiences of my own, since I have known and used Mr. Towns's method of treatment.

I do not pretend to say how this treatment accomplishes the results which I have seen it accomplish, but I have yet to learn of any one who has given it a thorough trial who has obtained results differing in any considerable way from those to which Mr. Towns refers.

The wider applications and generalizations of the book seem to me very instructive. The shortcomings of the medical profession, of the druggists, and those who have to do with the

management of alcoholics in courts of law seem to me well substantiated by the facts. Mr. Towns's plans for legislative control of drug habits also seem to me wise and far-reaching. He is, I believe, one of the most public-spirited as well as one of the most honest and forceful men that I have ever known.

I am glad to have this opportunity of expressing my faith and confidence in him and my sense of the value of the book he has written.

RICHARD C. CABOT, M.D.

INTRODUCTION

OF all the habits that hamper success there is none so crippling as an addiction. It is the chain that binds soul and mind and nervous system to slain ideals—a chain as tangible as the welded links which, of old, bound the murderer to the corpse of his victim.

It matters not whether the addiction be to narcotics, alcohol, nicotine or hypnotics. The result is the same—varying only in degree and in the character of the symptoms developed. The effect inevitably is to decrease efficiency, lower the mental and nervous tone, inhibit moral responsibility, and invite physical depreciation, disease, and an earlier death.

While primarily all these might be held to be problems for individual solution, yet, as a matter of fact, they are questions that vitally concern the entire social fabric.

For their ramifications extend into every madhouse, hospital and charity institution; into every police-court and penitentiary in the land. Their results are manifested in the relations between every human being and every

other human being bound to him by ties of blood, love or law.

There could not, in the very nature of things, be a clearer exemplification of the pertinent question asked of old: "Am I my brother's keeper?"—which automatically answers itself in the affirmative.

We *are* our brother's keepers. We *are* responsible for safeguarding his welfare, and for preventing him from being poisoned—either by himself or by others—with his consent or without it.

Either through ignorance, carelessness, or callousness, we have dug the slippery-sided pit into which thousands, and scores of thousands, of these brothers and sisters—unstable as to nervous organization, and deficient in will-power, have stumbled.

We, and we alone, are responsible for the laxity of law, the lack of protecting restriction, which besmears the traffic in narcotic and hypnotic drugs. And which, until the day before yesterday, sanctioned the sale of, and participated in the profits in, alcoholic liquors.

We, and only we, are responsible for the fact that—except in three enlightened States in this Union—there is practically no restriction against the sale of tobacco and cigarets,

even to minors. Indeed, their sale might even be said to be encouraged by the most suggestive and constantly seductive appeal.

Also, we have no one to blame but ourselves for the fact that, to date, the Federal Narcotic Law, regulating the sale of habit-forming drugs, has been a chief source of gratification to Belzeebub and his imps in hell.

Up to this writing, the present supposed drastic laws, both Federal and State, looking to the regulating and prescribing of habit-forming drugs have proved a farce.

These iniquitous laws, and their toothless, doddering enforcement, are the most prominent reasons why we have more victims of habit-forming drugs here in America than there are victims of tuberculosis.

The fault is ours. In these pages we shall show *why* this fault is ours. And, having shown why, we shall indicate the remedy.

For it is all very simple—and very obvious. It needs no seventh son of a seventh son, nor no ghost returned from the tomb, to point it out.

But it *does* need sincerity, and honesty of purpose, to carry out the suggested methods of reclamation.

If we can make up our minds to apply this

sincerity and this honesty of purpose to our present problem, we shall have done the best and the most constructive work that has ever been done—not only for the rehabilitation of the addict, but also for the betterment of the entire human race.

And this is a work well worth while.

EDWIN F. BOWERS, M.D.

I

HABITS THAT HAMPER SUCCESS

THERE is considerable mule in every man—and most women. We resent being forced to do—or to leave undone—the things that do not conform to our conception of what constitutes the line of least resistance.

Were this not so, the profound wisdom of the philosophers, and the equally constructive advice of those who have bought their experience with a bit of their lives, would not so frequently fall upon the sterile ground of our indifference.

More of us would skirt the shell-holes, and the pitfalls, instead of waiting to locate them for ourselves—by the aid of broken mental, spiritual or physical bones.

And yet, praise be, things are never quite so black as they might seem, at first sight. Especially when we remember that all our life is an education: and that everything we are and know is an accretion—built in us, as the pearl oyster builds nacre around a particle that otherwise might prove a source of irrita-

tion—even to the point of exciting a diseased process.

We shed the habits of the savage with which we are born, and which are a heritage of the race. Year by year imitation, emulation, education, admonition—even discipline and punishment—polish us, and bring out the luster of those acquired traits we class as attributes of civilization.

If we are born free from the stigmata of degeneracy, and of normal nervous and mental reactions toward environmental conditions, we learn—by precept, by example, by unconscious absorption—what qualities are most helpful to the general good, and what characteristics are outlawed and taboo.

We learn that selfishness, carelessness and destructiveness react harmfully—even disastrously—upon ourselves, and upon those whose good opinion we have come to value. Gradually there is built up in the normal being an instinct—or even a strong consciousness—that these traits not only may cause distress and loss to others, but that even more certainly and effectively they may influence our own well-being.

Similarly we find that apathy, indifference, laziness and inefficiency, while they may seem

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to relieve us of certain responsibilities, add measurably to the responsibilities of others—frequently leading these others to the very substantial wall of “diminishing returns” on our account.

If these others happen to be our employers, patients, clients, or customers, their reaction to these consequences and their causes may prove a salutary lesson to us—provided we are not so blinded by egotism that the lesson rolls from our unbending backs, breeding at the same time an intensification of these faults—manifesting themselves in disloyalty, ingratitude, dishonesty and hatred.

All these are traits that result from faulty training, a false viewpoint, or an ingrained spirit of combativeness. They may be eradicated by “taking thought.” They may be turned inside out by an effort of the will, or they may be made to serve a truly constructive purpose—as when hatred, cruelty and destructiveness are applied in war against the common enemy.

But, in the last analysis, while these traits, developing by long-continued repetition into habits, are distinctly mental in their origin and in their development, their ultimate re-

sults are pathological, and baneful to the last degree.

For the twisted and distorted mental outlook tends to twist and distort the processes of digestion, assimilation and metabolism. The conversion of food substances into finished organic material, and the reduction of the "end products" into forms least harmful to the system and most favorable to elimination, is interfered with.

Under the influence of fear, anger or hatred the alembic of the mind may turn mother's milk to worse than gall. Medical records show that not infrequently infants have died of acute toxemia after suckling a mother made furious by rage.

The inhibiting action of anxiety and worry, and the piling up of horror upon horror all through those murky war-years, now happily past, has familiarized every physician in the civilized world with a picture of the reaction of this form of nerve tension.

Commencing with loss of appetite, or some form of digestive trouble, it has reflected itself in irritability, headache, sleeplessness, nervous exhaustion, neuritis, neuralgia, rheumatism, sciatica, lumbago, and generally lessened resistance to disease.

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The lack of normal nervous activity manifests itself also in torpor of the liver, in a decrease of the peristaltic action of the bowels, in the development of putrefactive intestinal conditions, and in the absorption of these toxic products into the circulation.

Here they act as poisons, still further to lower the general nervous and muscular tone, still further to depress the general system, and still further to aggravate the already existing trouble.

Indeed, many able clinicians now contend that the real instigating cause of the devastating plagues of influenza and pneumonia which swept the world during the last months of the war, was the decrease in vital resistance, due primarily to nervous depletion.

Be that as it may, it is absolutely certain, and proved beyond a doubt, that mental influences can, and do, so disturb normal metabolic processes that beneficent secretions are transformed into highly toxic substances, exercising not only a depressive, but even a fatal action at times.

Mental habits that are destructive in their nature, therefore, breed actual pathological conditions—conditions which not only may hamper success in the business, social or

domestic life of the individual, but may eventually land him in the sanitarium—or even in a madhouse.

So, these traits are not merely the vagaries of waywardness—peccadilloes to be condoned, or tacitly encouraged by complacently yielding to them. They are the beginnings of a pestilential condition, that grows by what it feeds upon—developing into an actual morbid state that may be incurable, except by definite medication calculated to first rid the individual of all his accumulated poisons, and then build him up—bodily, as well as mentally.

So certain am I of this that I confidently believe that every man, woman and child now confined in an asylum, or in a hospital for the insane, might be markedly benefited, and in a large percentage of cases restored to normality, by a course of medical treatment which would “cleanse the stuffed bosom of that perilous stuff that doth weigh upon the heart.”

This does not mean that congenital idiots, or those suffering from deficiency or some malfunctioning of the ductless glands, or from brain-tumor or pressure, or from the pathological deterioration of syphilis or brain softening, can be normalized, or even improved by treatment.

It *does* mean, however, that dementia præcox, melancholia, acute mania, delusional insanity, and all those forms of mental derangement due to shock, grief, worry, and other distinctly mental causes, can be materially helped and, in many instances, thoroughly restored by depoisoning the tissues and brain cells, and then rehabilitating these patients nervously and physically.

A case which came to us recently illustrates admirably what I have here attempted to indicate. This young woman, the daughter of a prominent physician in a New England State had suffered a nervous breakdown from a too intensive application to her college work. She became morose and moody, developing at the time an intractable insomnia.

And, by the way, sleeplessness is one of the most prolific of all causes for mental derangements, as the Chinese, with their fiendish methods of torturing criminals condemned to death, have proved. We know, from these experiences, that an unfortunate, continually prodded into enforced wakefulness, will either die, or go insane, within a week—or sometimes even less.

As might be expected, this young woman received the usual treatment with hyocine and

other hypnotics, which had little effect upon the insomnia, but which measurably increased her mental incoordination.

She became more and more deprest, developing at the same time delusions of persecution and a tendency toward suicidal mania.

Some of the most eminent alienists in New England advised, for her own safety, that this girl be committed to an institution. Her father, however, on my advice, insisted upon first trying a course of elimination. Without the loss of a moment's time the same depoisoning treatment used with narcotic, alcoholic and tobacco cases was begun with this patient—and pushed vigorously. She responded wonderfully.

Within forty-eight hours the entire aspect of the case had changed for the better. With the clearing out of the system, and with the active stimulation of the glands and cells, the mind came out from under its morbid cloud.

The girl's depression and melancholia were replaced by a cheerful optimism. Her naturally sunny disposition reasserted itself—her confidence and trust in her relatives and friends was restored.

After a short period of unpoisoning treatment, and then a few weeks devoted to physi-

cal reconstruction, the young girl was taken home—absolutely sound, physically and mentally.

So, unpoisoning the system may “minister to a mind diseased, and pluck from the memory a rooted sorrow.” The pity of it is that so obvious a measure of utility is not universally adopted and practised. However, while these mental and nervous reactions, dependent upon nerve strain, wrong thinking, and an erroneous attitude toward matters of fundamental human relationship, are intensely interesting—particularly to the student of psychiatry—I propose, in these pages, to concern myself more with matters in which, with some justice, I may claim to be an authority.

I use the expression advisedly, because for upward of eighteen years I have been a pioneer, blazing a trail in an unbroken wilderness of misconception of the causes, effects and treatment of toxic addiction. Without any precedent for guidance, I have developed a new philosophy in relation to habits that have degenerated into addictions.

My work has obtained the recognition and the unqualified endorsement of such men as Dr. Alexander Lambert, Dr. Smith Ely Jelliffe, Dr. Richard Cabot, of Boston, one of

the ablest of diagnosticians; Dr. Harlow Brooks, Dr. David Myerle, Dr. Samuel Lambert, Dr. Jacobi, and hundreds of men in every part of the world who stand in the very forefront of their profession and in its counsels.

It is with these paramount questions of narcotic addiction—as they concern the happiness and welfare of the individual, the integrity of the family, and the health and vitality of the race—that I feel I have a distinct message of help and hope.

And it is largely for the reason that I believe in Humanity—that I recognize them as “gods, tho in the germ,” that I want to give them the benefit of what it has cost me almost a young lifetime of study to find out.

Men and women can be educated and led; they can not well be dogmatized and driven. Legislation may make it difficult for them to obtain one form of poison, but only education can make them will to do without poisons.

If the individual can not be educated to see the evil of degenerating addictions, legislative enactment will only serve to drive him to substitutes—perhaps even more insidious than the one of which he was forcibly deprived.

And these substitutes are so balefully com-

mon, so universally accessible, that we do but "scotch the snake" when we halt the sale of one habit-forming drug and leave the unstabilized addict to choose from among scores of others that lethal dose which takes the man out of manhood, poisons the well-springs of the race, and puts a handicap of nervous deterioration upon future generations.

II

“EASY THE DESCENT INTO HELL”

BETWEEN the lowest-browed man and the highest-browed ape there is a deep, wide gulf that forever demarcates these two species of animals. It doesn't lie in the fact that the descendant of a Paleolithic Adam has an embryonic soul concealed about him. For there are many splendid and loving dogs that have, and constantly show, far more of the true celestial spirit in a week than millions of erect-walking mammals do in a lifetime.

Nor does it consist in the proudly recounted fact that a savage will replenish a dying fire; while a savage ape, because he can not perceive the connection between combustibles and comfort, will let it die. For “civilized” apes have been taught to grasp this elemental law of cause and effect. They have developed sufficient of the Promethean intelligence to feed the flames, or to light the candle; to say nothing about the achievements of some of them in the way of trick bicycle riding, dressing and undressing, using the eating tools of civiliza-

tion, and conducting a fairly intelligent, tho necessarily limited, conversation.

The difference is distinct from any of these qualifications. It consists in the apparently inherent and universal inclination of human beings—created a little lower than the angels—to get drunk, on occasion—or even more frequently, if the opportunity is propitious—while most animals cordially detest alcohol as a beverage.

There are some exceptions among them, to be sure, but only enough to prove the rule—if exceptions ever do prove a rule.

For instance, wasps, ants and bees—who have many pugnacious and ferocious instincts in common with man—take advantage of the development of fermentative changes in over-ripe fruit juices to lay the proper foundations for a Bacchanalian orgy.

Through their indulgence in these ferments they become humanly intoxicated—quarreling wildly and excitedly—finally ending their revels by crawling away in a semi-somnolent condition to sleep off the effects of their celebration. Some hens and chicks will also devour bread soaked in whisky or brandy with relish and gusto.

And occasionally, elephants and dogs may

acquire a fondness for liquors. Some degenerate dogs will drink beer and refuse meat when both are offered at the same time.

But aside from these few instances in which the taste for liquor has been more or less cultivated by degenerative training, our furred, haired, and feathered friends furnish us an example that might point a moral and adorn a tale—if we cared enough about morals and tales to philosophize upon them.

So in some respects we are considerably lower than the higher animals—and always have been. For, from those dawning days of the childhood of the race—perhaps even before the rudest written symbol for the interchange of thought was devised,—the fermentative mash of a calabash of fruit punch was drained as, hundreds of centuries later, the wassail bowl, the tankard, and the brimming wine-cup have been emptied—for its intoxicating effects.

No race so low in the scale of intelligence, none so primitive and elemental in its complex of life, nor none so close to the demi-god in point of physical and mental development, but has resorted to some form of narcotization—as naturally, and with as little effort, as a duck takes to water.

It has never seemed to matter much what the effects of the narcotic were, just so long as they substituted for the prosaic and the monotonous, or for the grunt and grind of life, a brief respite, an oblivion, even most temporary.

Whatever was accessible was utilized—alcohol, opium, hasheesh, the fumes of petroleum, tobacco—anything and everything that altered the point of mental contact and changed the man's nervous relation to the world. And whether for better or for worse was not of so much consequence as that there should be a *change*.

This state of dependence upon a narcotic or stimulating drug, and, more particularly, the state of body engendered by the drug itself (for the poisoned body is even more intractable to deal with than is the poisoned mind) constitute perhaps the most crippling and hampering condition that can come to any human being.

For there is no longing or emotion equal in intensity to that of a drug user for his drug. It fastens itself like the tentacles of an octopus about its victim, shackling body and soul in a desperate bondage.

For narcotic or stimulating drugs mothers

will sell the children of their flesh, men will murder, and women will barter their bodies. I have had under my care clergymen of the very highest moral character, who have become shoplifters and forgers, through the debasing influence of alcohol or drugs. I have treated shrewd, successful business men, who have been dragged down into pauperdom because their enslaving habit had left them at the mercy of sharpers after mental deterioration had set in.

Repeatedly I have seen exemplary wives lose every sense of moral responsibility, as the result of the inhibiting action of some habit-forming drug upon the higher brain-cells.

For, remember, it is the cells of latest development in the biological scale, the cortical cells, that are the first to become obsolete in function through the effects of drugs, as has repeatedly been proved by scientists studying moral degeneracy in those afflicted with softening of the brain.

Therefore, the moral and the ethical development—the latest of the traits evolved by the socialization of human beings—are the first to be lost through the disintegrating influences of addiction.

Nor does drug addiction confine itself within any boundary line. Every stratum of society, from the palace on Fifth Avenue or Beacon Hill to the slums of State Street or the Barbary Coast, furnishes its quota of victims to that grim Over-Lord, King Druggery the Great.

The delicate, refined society woman, and the half-animal gangster—waiting for the lethal clutch of that grim chair behind the little green door; the charming, college-bred matron, and the thick-lipped son of a slave-woman—scarcely more intelligent than a trained ourang—all pay the tribute of their souls' life to the parasite growth of drug addiction.

With the narcotic drugs, in particular, the craving is most insidiously acquired, for it is only human nature to attempt to gain even temporary surcease from the agony of the throbbing nerve or the dead-weight of the aching heart.

Hardly a normal adult, in the throes of pain, or in the deep gulch of sorrow, or prostrated by fatigue, who is not likely, in a moment of least resistance, to avail himself of the effects of an easily accessible opiate or stimulant.

And the most sinister feature of the possessing action of these drugs is that even the smallest dose, capable of producing the results for which it is taken, if repeated with sufficient regularity, is quite as potent for harm as would be a much larger dose, less frequently taken.

One, for instance, who would use an eighth of a grain of morphine three times a day would acquire the morphine habit just as surely as would the man who might use three grains of morphine three times a day,—providing this individual could tolerate morphia in this quantity.

Take the opium smoker as another example. The “hop fiend” consuming twenty-five “pills” a day gets only the morphine equivalent of a quarter of a grain of morphia taken hypodermically, or of a half grain taken by the mouth. A novice in the art, or crime, of opium-smoking could not consume even a quarter of this quantity of drug. And yet the beginner acquires the opium habit, and in a few months he is as firmly enslaved as tho he had been a life-long devotee. So any amount of any drug which is sufficient to relieve pain or to stimulate the user to feel “different,” is sufficient to create a craving

for the continuance of the drug that gives this relief or this stimulus.

Not infrequently, the enslavement to a drug habit manifests itself in an incredibly short period. Only recently, I treated a case of morphine addiction in a man who had been taking the drug barely five weeks. He had suffered rather severe pains from a broken leg, for the relief of which hypodermics of morphine were prescribed.

During this brief time he developed one of the most aggravated cases of morphine addiction I have ever seen. He was quite as completely unstabilized, and required quite as definite a course of treatment as did another most unusual case, treated at almost the same time, who had been taking the drug for nearly fifty years.

There is a great misconception also in the mind of the average man and woman—a misconception cunningly built up and nurtured by vendors of drug-containing nostrums—that the combination of their favorite poison with some relatively harmless ingredients neutralizes the toxic effects of the poison.

Nothing could be further from the truth. For it does not matter in the slightest, so far as toxicity or habit-forming qualifications

are concerned, how the drug may be disguised, nor how it may be combined with other drugs designed to alter its taste or its physical aspects.

It is the saturation of the tissues by the drug-toxins, and the organic and nervous reaction to these toxins, that works the evil. It is the drug itself, and not its combination in medicine, in snuff, in atomizer solution, or in suppository, that does the harm. Even tho the drug be combined with its physiological antidote, atropine, the habit-forming effects are quite as certain as tho the "straight" drug were used.

So no combination which allows the physiological effects of the drug to become manifest, is less injurious, or less habit-forming, than would be the drug itself taken alone. This is true of every "elixir," "cough medicine," "tonic," "sedative," "narcotic," or "hypnotic"—no matter how prettily panelled their container, how beautifully they may be colored, or how pleasantly they may have been made to taste.

Indeed, it is quite likely that the more appealing these "medicines" are to sight and taste, the more frequently the dose can be repeated, and the larger the quantity toler-

ated without exciting Nature's defense of nausea against the poison.

In fact, were it not for this natural defense, unfortunately operative in only a small percentage of cases, the victims of opium and its derivatives would be even more numerous than they are.

It is this sickening effect alone that has saved many from the habit. For this type of user never experiences any of the temporarily soothing or dream-exciting sensations which commonly follow the use of the drug. The only effects the opiate has for him is to make him wish he were dead.

Yet this pitiful, natural safeguard, while rarely operative, is more efficacious in preventing addiction than any other that up to the present has been provided by man in his heedlessness, indifference and greed.

It is curious, also, that women, tho constitutionally more liable than men to feel the need of medicines, and by habit and example more prone to indulge in medicine-taking than men, form, by far, the lesser portion of the drug-taking class.

Except among the women of the underworld, the introduction of women to the drug habit is due almost exclusively to the use of

some drug combination, first administered in perfect good faith by a physician.

Tho the use of drugs is almost universal among the immoral and criminal, it must not be inferred that all addicts are necessarily immoral or criminal. Many are of the highest moral character—in the beginning. How long they may remain so is another question. Drugs are the common tragedy of the professional world—of doctors, lecturers, actors, writers, scientists, teachers, or students—of all those who snatch at doubtful relief from the penalty of overwork, as well as of mere sensation-seekers, or of those who are attempting escape from violation of moral law.

Perhaps the most pitiable fact connected with the use of drugs is the extreme youth of a majority of the addicts. Narcotics are peddled sometimes within one hundred feet of a schoolhouse, and boys and girls of from fourteen to eighteen become enslaved to their effects. It is a matter of statistics that a vast majority of those using these poisons in New York and adjoining states are between the ages of sixteen and twenty-one.

In fact, one City Prison Physician, testifying before the Senate Public Health Committee a few years ago, made the startling asser-

tion that within a radius of a few blocks of Third Avenue and 149th Street, New York, more than one thousand school children had acquired the heroin habit, or were in danger of becoming “joy-riders” because of their use of the drug.

The profits on these drug sales are enormous. Any figure between three hundred and three thousand per cent. may represent the gain acquired by these debauchers of young lives.

The “doped drink,” furthermore, is the most potent ally of the white-slaver, for in the intermission between dances much is accomplished through the agency of a drugged drink that may never be undone.

It is the “American type” of individual, however—highly nervous, constantly living under pressure, always going to the full limit—or even beyond—who is most prone to physical or nervous disorders that lead to the habitual use of drugs.

A surprising number of us are hypochondriacal by nature, prone to “take something” when we feel badly. And so it is mighty fortunate for many that a lack of knowledge of what to take, and a lack of opportunity to secure the poison, stands between us and drug

addiction. Were it not for this fortunate ignorance there would be infinitely more drug addiction in this country than there now is—and heaven knows there is a-plenty.

For it is conservatively estimated that there are now in America approximately a million and a half victims of habit-forming drugs alone—not to mention the devotees of rum, headache powders, ether, and flavoring extracts.

Probably 2 per cent. of all practising physicians, and thousands of nurses and druggists are addicted to narcotics. And the ranks of the drug victims are being added to at the rate of an additional hundred thousand new recruits every year.

There is no more serious problem confronting the constructive intelligence of our lawmakers, our philanthropists, and our physicians to-day than the regulation of this soul-and-body-destroying traffic—this traffic that makes easy the descent into hell.

To deal adequately with this criminal commerce is a matter that must concern every man and woman who feels any natural responsibility for the welfare of their fellows—and for the protection of the generations that are to come.

III

THE MANY WAYS MEN POISON THEMSELVES

WE are now consuming more habit-forming drugs than all Europe combined. Our consumption of opium is far greater, per capita, than that of China, long looked upon as the worst of all drug-sodden countries. And this was true even of the China of pre-Republic days—those glad days of only a few years back, when the myriads of opium pipes were cast into the devouring flames by the enthusiastic and celebrating heathen.

Since 1860 there has been an increase of 300 per cent. in the importation and consumption of opium in all its forms in America, as against only 133 per cent. increase in population. During the past ten years there has been an annual importation and consumption in America of four hundred thousand pounds of opium, 57 per cent. of which is made into morphine.

It is estimated that 80 per cent. of this morphine is used by victims of the morphine habit. Some authorities place the figure even higher, claiming that only 10 per cent. of

all opiates are used legitimately for blunting pain. The other 90 per cent. are employed by drug habitués for the purpose of murdering their best instincts and their physical well-being.

In addition to opium and all its derivatives, one hundred and fifty thousand ounces of cocaine are used illicitly.

And still further to swell the total, hundreds of pounds, or even tons, of other hypnotics, narcotics and nerve-deadening drugs are used.

We have dug for ourselves this deep and slippery-sided pit, to fall into which is as easy as lying. But once in, there are few, indeed, who climb back to the bright light of normality again without a soul-chastening struggle.

The most dangerous of all habit-forming drugs are opium and its derivatives; cocaine, and the hypnotic group—trional, veronal, sulphonal, medinal; and other sedatives derived chiefly from coal-tar sources. Of late years the abuse of bromides and other nerve "soothers" has also been greatly on the increase.

These hypnotics and sedatives are not usually classed as habit-forming drugs. Yet their effects are almost as destructive, and the toxemias they engender quite as definitely

pathological as are the effects of opium or alcohol, and for these reasons their sale should be regulated quite as scrupulously as should be the sale of the more generally recognized narcotics.

I have never seen more pitiable cases than those who come to me after they have been taking regularly, over a considerable period of time, some "cure" for sleeplessness. For this habit not only produces an extreme neurotic condition, but it also changes the entire temperament of a person. It will turn the most beautiful character into an extreme case of moral degeneracy.

Again, most of us have peculiar idiosyncrasies with regard to certain drugs. I have seen patients who could not take as much as two grains of veronal or trional without flushing, itching, or similar symptoms. With such people large doses might bring about serious results—or even death.

I have treated scores of victims of bromides, chloral, and the "sleeping powder" habit, and I can not too strongly emphasize that the victims of these delectable forms of "dope" are quite as unstable, and equally as difficult to reconstruct, as are those who long have been abusers of alcohol, opium, or cigarets.

And, further, the sale of these hypnotics, without a prescription, is inviting a serious risk. For how is it possible for a man, be he ever so well qualified as a pharmacist, to know, for instance, that an amount of veronal which would not ordinarily affect a child might create an intense nervous disorder in a particular type of adult?

Yet the sale of hypnotics, of almost any type, is unrestricted in this country. Preparations intended for the relief of "nervousness" and insomnia are widely advertised, and openly and energetically sold. Yet they are all definitely dangerous in character, and definitely habit-forming in their action.

Opium and its alkaloids are the chief narcotic drugs with which we have to deal in this country, altho extracts of hemp and other mind-destroying drugs have a tremendous vogue among certain Eastern peoples.

Opium and its alkaloids are unique in respect to the fact that no other drug can be satisfactorily substituted for them—once tolerance is established. Chemists have given us more than twenty different salts or alkaloids of opium—under as many different trade-names. To each of these preparations they have ascribed glowing virtues. If one were

to believe what these German gentlemen tell us, the impression would be inescapable that each new-found pet opiate was in the same class with baby-foods for harmlessness and beneficent worth.

All of which would be very interesting and important, except for one thing: there isn't a word of truth in any of the statements. For anything that has an opiate's action is an opiate—no matter by what sweet-smelling name it may be called. The harmless disguises are intended, in the end, only to deceive. And, until it is possible to extract from fire its burning qualities, or from water its wetness, it will be equally impossible to extract from opiates their opiate qualities.

Morphine is the chief active principle of opium. It is intrinsically, in its insidious effects, far worse than opium itself—for opium has certain inherent properties which partly counteract the evil effects of the morphine it contains.

The morphine user generally retains his faculties. He is usually capable of intelligent conversation. He is able to discuss the various phases of his condition—something which is quite impossible with a victim of the alcohol habit.

Codeine and heroin are the most important derivatives of morphine. Codeine, while it is only one-eighth the strength of morphine, is, nevertheless, decidedly habit-forming in its action.

Doctors have been led to prescribe it quite freely as a sedative in cough, and for the relief of pain, as well as for its hypnotic effects, notwithstanding the fact that it is the accumulative consequence of continued small doses, and not the quantity of morphine in each dose, which may, and does, develop an addiction.

For to use any narcotic drug effectively means, in the long run, the necessary increase of the drug up to the limit of physical tolerance.

Heroin, which is the basic element of "cure" in many liberally advertised expectorant mixtures, is three times the strength of morphine. It was first introduced to the world by the indefatigable German chemists — the name "heroin" being merely a trade name.

It was announced as being a morphine derivative, in which the highly depressing effects of the morphine were eliminated, while the stimulating effects of the morphine were retained.

Of late years this highly toxic product has supplanted morphine and codeine in the prescriptions of many physicians, particularly in cough and asthma mixtures. It is a baleful and dangerous drug to rely upon, particularly in those long-standing pulmonary conditions that *may* get well, only to leave behind them a nervous system unstabilized and fettered in the bonds of a habit which makes life far more wretched for its victim than the disease it has supplanted.

The grim joke in connection with heroin is that this powerful opium alkaloid was originally, and by some physicians still is, thought to be quite harmless. Indeed, in many cases, where it was given by prescription, heroin was ordered by the physician in the sincere belief that it would not create a habit.

Yet, a patient, accustomed to taking three grains of morphine daily, can be made comfortable on a single grain of heroin, and will not suffer so much as from the depressing effects of taking the morphine "straight."

I may mention here that I was the first to give the medical profession the clinical findings on this drug in comparison with morphine and other preparations of opium.

I told the profession at the time that it was

the most harmful of all the derivatives of opium, and that, in view of its extreme stimulating effects, a tolerance of the drug would be more quickly established than by the use of the opiate in any other form—an observation which experience has proved to be true.

For heroin takers acquire the habit quite as quickly and easily as tho they had been using morphine. I have had repeatedly to treat cases of heroin addiction in which the victims have thought to satisfy their needs for an opiate without forming a habit.

Physicians generally do not yet know how long a drug may be administered, nor how much may be taken, before a tolerance for the drug is set up. Indeed, this point would be extremely difficult to determine. For each patient has his own limit of resistance, to ascertain which it is necessary to let him proceed to this limit. Having proceeded to this point, however, he is definitely and completely within the thralldom of the opiate.

There is, of course, only a palliative effect in any of these drugs, since, like opium, they have no curative power whatsoever.

Cocaine is the most harmful of all habit-forming drugs. There is nothing that so quickly undermines the constitution, or that

provides so direct and expeditious a road to the insane asylum.

A man does not acquire the cocaine habit in the sense that it is virtually impossible for him to leave it off without medical treatment. He can, if he will, relinquish it, altho he rarely does, because of the fact that, on withdrawal, he experiences only an intense and horrible depression, associated with a prostrating physical languor, which results in a sleepiness that can hardly be shaken off.

It is just the reverse in this respect from opium withdrawal, which causes a distressing insomnia, together with an extreme nervous and physical irritability.

In its action, too, cocaine is exactly the opposite of opium; for cocaine stimulates amazingly, whereas opium usually soothes and quiets.

While the stimulus of cocaine wears off rapidly, it nevertheless confers half an hour or more of capability for intense effort. This is why bicycle riders, prize-fighters and race horses are often "doctored" with cocaine.

When the effect of the cocaine gives out its victim usually resorts to alcohol for stimulus. Alcoholics, when deprived of alcohol, almost invariably drift into the use of morphine.

The widespread use of cocaine among the laity in the comparatively short period of time since its discovery and its introduction to this country has undoubtedly been brought about by the use of patent medicine preparations, containing small quantities of the deadly drug. These have been chiefly the so-called "catarrh cures"—a type of remedy which, of course, never cured anything.

Yet, with only a 2 or 4 per cent. solution of the drug, these "cures" brought about a craving for cocaine which made "repeat sales" a certainty, and which started thousands down that steep path that leads to the labyrinth of murdered hopes.

As with other habit-forming drugs, in order to gain the desired result, the dose of cocaine must be increased in proportion to the gradual increase in physiological tolerance.

Cocaine contracts and deadens the tissues with which it is brought in contact, and this, in the case of catarrh, relieves instantly the discomfort, making one feel, for the time, as tho there were no nose on one's face. Its effect, however, lasts only for twenty to thirty minutes.

This is one of the reasons why the cocaine habit is so readily formed. A man, taking

any powerful stimulant, is certain to feel a corresponding depression when the effects of this stimulant wear away. It thus becomes necessary for him to take more of the drug, in order to be buoyed up and restored again to the point of normality.

It is among these "accidental" cocaine users, therefore, not the yearning for any abnormally pleasant sensation which sends them back again and again to their dosage, but merely their desire to be measurably restored to the comfort which is habitual to the normal state.

It must be apparent, however, that as soon as it has become necessary for any one to resort to the use of a drug in order to rise to the normal, that there has been a marked depreciation, physical and mental—or probably both.

This explains the fact that so many criminals are to be found among cocaine users. For no drug so quickly brings about mental and physical deterioration.

Also, cocaine is the most expensive of all the drug habits. I have known victims who habitually used 120 grains a day, at a cost of about seventy dollars a week.

This is undoubtedly one important reason

why so many have been made criminals and prostitutes by the use of cocaine. One who uses it diminishes his earning capacity; while, on the other hand, one who must have it must have money, and a considerable quantity of it in order to continue his habit.

Perhaps it is the matter of expense which explains why the underworld has taken so avidly to heroin instead of cocaine. Heroin is so much cheaper.

Whenever the sale of the poison has been restricted to those presenting a physician's prescription, the consumption of cocaine has immediately been lessened, for most men can not afford a doctor's prescription for a patent medicine—and no reputable physician would write one, unless neuralgia, or some equally painful condition demanded the use of this powerful agent.

We have become so thoroughly accustomed to the use of headache powders and the seductive "fizzy" drinks containing acetanilid as a pain club, that we consistently ignore the depressing effects these drugs may have upon the heart, and their deleterious results upon the blood—breaking down its red corpuscles and creating serious and persistent anemias thereby.

Indeed, familiarity has bred in us an easy contempt of analgesics. So to-day there hardly exists an apothecary, no matter how honest and conscientious, who will not undertake, for a consideration, to recommend a headache remedy, of whose action he knows nothing, for a headache the cause of which he knows less.

Without the slightest knowledge of the patient's idiosyncrasies, he will prescribe for him blithely and cheerfully, taking never the slightest thought as to whether the mixture he sells may not be absolutely contra-indicated by reason of some organic condition.

To the average druggist a headache is only a headache—just as the yellow primrose, growing by the river's brink, a yellow primrose was to the gentleman Tennyson talks about—and nothing more.

Yet no physician would, without a careful examination, assume the responsibility of prescribing for a man who came to him complaining of pain. For what might alleviate one form of headache might be disastrous in the headache produced by another variety of toxemia—to say nothing of the fact that any headache should be removed by removing its cause, and not by bludgeoning it into insensibility with a dose of dope.

And there is also the possibility of killing the patient suffering from a lack of information, complicated by a too-abundant supply of headache powders. In one case, brought to my attention, a girl, in attempting to relieve an obstinate headache, which probably would have been most quickly corrected by an enema, had taken nine headache powders, all within an hour.

Had there been ten minutes delay in summoning a doctor, she would have died. As it was, she escaped only by the narrowest of margins—and for a long time afterward was most seriously ill.

Preparations of the nature of Bromo-Seltzer—and other coal-tar products notable for producing anemia and nervous depression—are undoubtedly responsible for the presence of many men and women in the mad-houses of the land.

These “remedies” disturb the digestion; they interfere with natural sleep; almost invariably they must be used in increasing quantities, as the system becomes accustomed to their use; and quite without exception they are excreted by the kidneys, thus throwing an additional burden upon organs perhaps already badly overworked.

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The chemist who first evolved the happy idea of including caffeine in these preparations has been instrumental in putting millions of dollars into the pockets of the manufacturing druggists; and he has also been instrumental in saddling the world with a great and entirely unnecessary weight of physical and mental degeneration.

It must be remembered that only a very powerful drug can stop a headache as quickly and completely as Americans have come to demand. The preparation must be sufficiently potent to deaden disordered nerves, and being chosen because it is generally effective, not selectively effective—as would be the case with a remedy chosen after an intelligent diagnosis had revealed the real nature of the trouble to be treated—it is virtually certain to have no curative properties whatsoever. It is undeniable that hundreds of deaths have resulted from unwisely experimenting with such preparations.

The time will come—and it should be here now—when the prescribing of hypnotic and analgesic drugs will be in the hands of men trained to know when to avoid them. And their sale without responsible sanction will be prohibited by law.

Alcohol and tobacco are such well-known and justly celebrated poisons that their consideration is of sufficient importance to warrant of their treatment in a separate chapter.

The former bids fair to be relegated to what one of our ex-presidents, for want of a more expressive term, designated as "innocuous desuetude" some years back.

The latter promises to remain in our midst for some time to come. Altho, judging by the attitude of three of our progressive western States and by the increased activity among those who object to being poisoned by proxy, it is quite likely that Lady Nicotine will sometime, perhaps within the lifetime of men not yet bald, be sent to consort with old John Barleycorn.

For the good of everybody concerned, let us hope this may come to pass. While she might be missed by many, her going would relieve, not only men, but numberless women and little children of one of the most insidious, complete and certain means of thoroughly and completely poisoning themselves.

IV

HOW THE POISONS ACT

WHILE the general effect of any of the habit-forming drugs is to change the mental and physical "feelings" of the one who takes them, and while possibly 90 per cent. of all the drugs that are used are employed primarily for this purpose, yet there is a wide variation in the action of these drugs.

Some produce deep sleep, or even unconsciousness—associated with the most marvelous and enchanting dreams—or else horrible nightmares—of the Kublai Khan variety.

Others produce a wild delirium of exhilaration, a frenzy of sexual desire, or a maniacal sadistic tendency, culminating in the actual shedding of blood—as with the hasheesh-crazed Malay who runs amuck, slashing right and left with his murderous creese, until he is stopt by a bullet.

Other drugs produce the most exalted visions, as with ether or naphtha inhalation, or with ether drinking.

Still others produce a cheerful, contented stupor, as with some of the hypnotics and, to a certain extent, with tobacco.

None who have read DeQuincey's intensely interesting, even tho highly colored, "Confessions of an Opium Eater," can fail to be impressed with the avenues of mental adventure which the indulgence in a drug may open up. And yet, DeQuincey's reactions toward opium are not duplicated by one in a hundred drug takers.

After all is said and done, the average drug addict, wittingly resorting to drugs, first does so because he is neurotic and unstable, because he is suffering from *ennui*, or because he has an inherent desire to get drunk—to satisfy which desire he takes the means that lie closest to hand, or that make the greatest appeal to his imagination.

The effects of toxic drugs, however, in producing definite pathological changes in his organism, are not of the imagination. They are, on the contrary, as distinct and definite as is a broken leg, or a case of eczema.

For they are brought about by a material agency—the accumulation in the system of small quantities of the drug to which he may be addicted—together with a saturation of

the tissues by the toxins developed by the inhibiting action of the drug.

It is in the nature of opiates to deaden what is known as the osmotic function—that process by which the millions of cells in the body absorb nutriment through their walls from the blood with which they are constantly surrounded; and also by which they get rid of their used-up material through a reversal of the process.

These two processes—known as anabolism, or “building up,” and katabolism, or “breaking down,” if interfered with, result in a disturbance of metabolism, and this in turn, may actually cause—or else predispose to—almost anything and everything that can happen to abnormalize the human body and mind.

This explains why the deprivation treatment, and every other treatment for these addictions, which is not directed toward eliminating these inhibiting poisons and toxins from the system, is so generally foredoomed to failure.

I can never too strongly reiterate that any form of treatment designed to relieve drug, alcohol, or tobacco addiction, must include in its scope the thorough and radical depoisoning of the system.

The most prominent symptom of the drug addict—any kind of a drug addict—is his craving for his drug. Each drug, however, has its own peculiar complex.

For instance, opium addiction, in any form, is usually associated with irresolution, lack of self-control, a tendency toward moral obliquity, and a total loss of all regard for the truth.

Toward the time when another dose of the possessing poison is due there is quite frequently pain in the regions of the stomach, sometimes associated with intense nausea, altho whether this is real or feigned is sometimes difficult to determine.

Mental depression is a much more constant symptom, usually associated with insomnia, restlessness, marked anxiety, and a sense of impending evil—all of which are, for a time, relieved by the dose.

The glandular secretions and the eliminative functions of the body being hampered in their activity, there is usually an obstinate constipation present—altho this may be alternated with aggravated attacks of diarrhea.

A famous novelist, who has had fourteen years of disastrous experience with a wife addicted to paregoric, alcohol and cigarets,

sums up the symptoms of drug addiction somewhat as follows:

If your husband, wife, brother, sister, friend—let us call this person “he,” for convenience’s sake—if this person complains of aches and pains, usually in the back or chest, and if his skin itches, and he likes to have his back rubbed and scratched, think of morphine.

If he has the habit of going somewhere regularly, at about the same hour every day, making excuses to absent himself, and getting uneasy if prevented, bear in mind the periodic dope craving that drives the victim to the source of supply almost like clockwork.

If he steals from you, and especially if he lies, suspect dope. If he is blue, morbid and despondent, always “knocking” everything and everybody, giving everything a pessimistic, mean turn, remember that dope makes people this way.

If he is thin and emaciated, constipated, sallow and cold, suspect dope. Also, if cross, argumentative, obscene, thick-tongued, whining. If he thinks everybody is against him, and is convinced that there is a conspiracy on to injure him, don’t forget dope.

If he is mentally dull, irritable, and without

appetite and energy; if he sweats at night; if he is evasive and will not look you in the eye; if he lacks will-power and is unreliable, suspect dope.

If, above all, his eyes look varnished, and the pupils remain contracted at night, or in artificial light—"pin-point pupils"—then be almost sure of dope. This is the most important symptom. Taken in connection with three or four of the above, it ought to constitute a positive proof. Don't forget the "pin-point pupil!" True, one method exists of camouflaging this, and of so expanding the pupil, even while morphinism is present, as to deceive the unwary. This is by the use of belladonna, or its active principle, atropine. But not many opium-users seem to know, or care to use, this method of avoiding detection.

My novelist friend concludes: "If you suspect, or know, that some one dear to you is the victim of morphine, opium, codeine, paregoric or laudanum, don't accuse. You will get no confession; you will get nothing but lies.

"Don't appeal to the will-power of the patient, and leave him at large. In most cases he has no will-power; and as long as he is at large, he will get his drug. Consult

a doctor, and have the patient properly treated."

All of which is extremely sane, practical advice, as well it might be, being bought with the very heart's blood of the novelist, and some of the best years of his life.

The symptoms of paregoric or laudanum addiction, morphine, heroin, codeine, or any other of the opium derivatives, are all similar—varying only in degree, and in some minor detail of expression.

Cocaine, however, is a drug the action of which is almost invariably exhilarating. In fact, this constitutes its most insidious appeal. It lends to the mentally distraught a sense of security. It makes the most sanguine of dreams appear true. The negro "snowbird" (as "coke" fiends are sometimes called) takes a little sniff, and straight is transported to a banquet hall in which chicken is the *pièce de résistance*. The poverty-stricken become, for the period of their trance, millionaires. The sick think themselves sound, and to the normal man or woman taking this drug, the world seems a splendid place for an indefinite sojourn. All men are brave and noble, and all women beautiful and true.

Among the educated, the intoxicated, drug-

projected spirit thunders at the doors of high Olympus, flouts Jove, and makes merry with the Fates themselves.

The psychological effect of cocaine is perhaps its most conspicuous and pernicious feature. Cocaine habitués are almost without exception notorious liars. Their moral sense is destroyed in proportion to their subjection to the habit. Their faculty of knowing right from wrong is atrophied and shriveled. In the matter of appeasing their drug-engendered appetite, they are absolutely without scruple. They will steal, even murder, if necessary, to obtain their stimulant.

The sensations following the use of cocaine vary slightly, according to the individual. The exaltation, which is its first effect, may, and frequently does, take the form of wild frenzy, sometimes accompanied by the fantastic hallucinations and delusions that are associated with acute mania. This is followed by profound depression, and frequently a sensation as of worms or insects beneath the skin, and sometime ocular and circulatory disturbances—all of which furnish the all-compelling pretext for continuing the use of the drug, or for attempting to overcome temporarily the thing that overcomes it.

Occasionally the addict imagines that certain people are abusing or persecuting him, and this incites his murderous attack upon unsuspecting and entirely innocent victims. This is particularly true of the negro in the South, whose nervous organism is very unstable when excited by drugs. He becomes a veritable fiend, lusting for blood. Thus cocaine is responsible for many terrible tragedies in the South.

The sniffing of cocaine by the negro is an important cause of the alarming increase in crimes against women in the South. The stimulating and exciting effects of the drug transform its victims into satyrs. And the pitiful part of it is that they are no more responsible for their bestial acts when under the influence than is a tiger for killing, or a snake for striking.

This country is rapidly awakening to the perils of permitting the cocaine habit to develop further, and stringent measures are now urged to stamp out the evil. That the problem is one of extreme difficulty can be appreciated when it is recalled that an ounce of cocaine, and an amount so trifling that it can be carried in the smallest pocket of a man's clothes, is sufficient for one thousand average

doses. This amount is rarely exceeded in a month by the largest dispensing pharmacists in their legitimate prescription work. But it is ample to keep fifty "fiends" thoroughly doped for a week.

It would be stating the matter conservatively to say that for every ounce employed legitimately, there are two hundred ounces consumed illegitimately.

Indeed, the ease with which cocaine or heroin are administered is one of their most dangerous attributes. To get definite results with morphine, it is necessary to have an elaborate outfit, consisting of a hypodermic syringe, and of a liquid solution of the drug, or a spoon in which to dissolve it. The insertion of the needle, too, is a painful process, and not seldom are the punctures infected, forming disagreeable abscesses.

With cocaine or heroin, however, no apparatus is necessary. A small portion of the powder is poured on the back of the hand, or blown from a powder insufflator. A quick sniff, and the drug effect is secured.

Rather peculiar is the fact that the cocaine taker, in contradistinction to the morphine, heroin, acetanilid, or chloral user, is gregarious in his tendencies. He joys in seeing others

in a condition similar to his own. He resembles a convivial drunkard in this respect.

In many parts of the country the practise of giving "snuffing parties" is common, and these are likely to be followed by an orgy of murder. So when an overseer in the South will deliberately include cocaine in the rationing of his negro laborers, in order to speed them up to meet emergency demands, it is high time that more adequate legislation restricting the sale of cocaine should be effected than obtains under the present hemiplegic Federal Narcotic Law.

Our old friend, Alcohol, is another degenerating influence. He is probably the most ubiquitous and harm-producing agent in or out of captivity. The chief pathological action of this protoplasmic poison is strikingly shown when the leucocytes—the white cells in the blood that defend us against the attacks of invading micro-organisms—are subjected to its influence.

Under the microscope it is demonstrated that even a moderate quantity of alcohol absorbed into the blood paralyzes these phagocytes. They behave like drunken sots; they can't move fast enough to catch the disease-germs, and when placed in the midst of a

clump of malignant microbes are unable to kill and devour them.

In the chronic alcoholic the microscope demonstrates that the fighting powers of the white corpuscles are permanently reduced. This accounts for the lowered vitality of heavy drinkers—and to a lesser extent of any drinkers—and explains why pneumonia, typhoid, or grave infectious diseases are so fatal among them.

In fact, after continued heavy drinking, the microscope reveals that the phagocytes have not only lost their real nature, but that they have returned to a condition of savagery, and, instead of defending their host and his body cells, they have become degenerate cannibals, feeding upon the tissues and organs like disease germs.

The favorite food of these alcoholized corpuscles is the tender cells of latest development, the highest and most delicate in the biological scale. These are the brain cells. In proof of this, the presence of the gray matter of the brain can be demonstrated in the bodies of the leucocytes of drunkards. This explains mental degeneracy among these unfortunates.

But, in addition to paralyzing the phago-

cytes, alcohol has three other methods of helping along the fair cause of degeneracy. The first centers in its fat-dissolving qualities. For alcohol has a much higher affinity for fat than an Esquimo has for blubber. Be it remembered that all fat-dissolving substances are narcotics; and furthermore, the facility and rapidity with which they dissolve fats determine their power as narcotics.

Thus, ether or chloroform, dissolving fat more rapidly than alcohol, are stronger narcotics than alcohol, altho their effects are more transient, and therefore less disastrous.

But alcohol also has an affinity for oxygen. It combines with oxygen to form an aldehyde (one of the steps toward the dissolution of alcohol into its elements). This oxygen hunger causes alcohol to rob the blood of its loose oxygen. This retards normal oxidation of food products, and causes the accumulation of effete and under-oxidized material. These products act as actual organic poisons upon the nerve cells and tissues—preventing their active functioning.

Alcohol has an especial fondness for water, which it seems to like much better than the man who drinks it. In its sense-deadening progress through the system it robs the tissues

of this fluid. This accounts for the horrible thirst which follows hard upon the "morning after." The headache which usually accompanies this same condition—it may be interesting to know—is due to increased blood tension, to absorption of toxins, and to the congestions "reflexed" from the highly irritated stomach and alimentary tract.

These, however, are but surface manifestations. It is not in transient effects that the dull alcohol flood leaves its imprint, but in the degenerative changes which take place in the brain and nerve cells.

All poisons have an "elective affinity" for special organs or tissues. Inasmuch as the brain and nerve cells are composed largely of fat, oxygen, and water, and as alcohol, by its principle of dissolving fats, combining with oxygen and abstracting water works its insidious will with all three, we can readily understand, on a purely physiological basis, why a drinker should be wit-stricken.

When the fat is dissolved out of the brain and nerve tissue, it paralyzes their cell function. This paralysis is, at first, only temporary, clearing up with the sobering process. But if the cause is repeated sufficiently often, the paralysis becomes chronic, and dementia,

acute insanity, tremors, palsy, and various other brain and nerve diseases develop.

Paraldehyde, which is gaining a widespread use among the laity in the treatment of insomnia, is a powerful habit-forming drug, which gives rise to symptoms similar to those produced by alcohol.

It causes anemia, emaciation, weakness and irregularity in the heart action, derangement of the stomach and bowels, a general tremor—especially of the tongue, hands, and facial muscles. In addition, it produces the unsteady gait of the drunkard, restlessness and anxiety, mental excitement, and confusion and loss of memory, incoherence of speech, delusions and hallucinations, and delirium tremens. Paraldehyde utterly unfits a man for the conduct of his business, and altogether it is one of the most insidious of our modern addictions.

Another habit which is reducing the efficiency of the American public, and which is marvelously increasing their already plethoric stock of nervousness, is the use of chloral as a sedative and hypnotic.

Victims of the chloral habit suffer from digestive disturbances, violent attacks of diarrhea, unsightly skin eruptions, profound weakness of both mind and body, tremor, shortness

of breath, and heart irregularities. They constitute some of the most difficult and intractable cases with which we have to deal.

The use of *cannabis indica*, while not so common in America as in the East, is still of sufficient gravity to warrant consideration here. This extract of Indian hemp furnishes the famous *hasheesh*, which, in turn, furnishes the Malay his incentive for murder.

Canabis indica is a most insidious drug, because the intoxication it produces is usually of a highly agreeable nature—characterized by an intense mental and physical exaltation, together with a marked increase in sexual desire. The habitual use of the drug, however, inevitably produces mental impairment, sexual impotence, digestive derangements and anemia.

The administration of bromides for any considerable period of time causes a depression of the nervous system, which absolutely incapacitates a man or woman for any intensive work. The abuse of this form of sedative is criminally common, as there are practically no restrictions upon the sale of the drug. The use of bromides over any extended period of time is quite frequently followed by complete sexual impotence, and occasionally by an obstinate and disfiguring skin eruption.

We have already seen something of the disturbing effects upon metabolism exerted by headache powders and the coal-tar derivatives in general. But that Bromo-Seltzer and some of the other pleasantly disguised headache "remedies" will create a definite habit almost as marked as the craving engendered by veronal, trional, and the hypnotics, is not generally known.

It is a fact, however, that thousands of neurotic men and women make a practise of helping themselves to a glassful of effervescent "joy" about every so often, actuated by no need save the need developed in their nervous systems by the accumulative action of the poisonous ingredients of these so-called remedies and by the irritating effects of the retained toxins of mal-metabolism, effects which are temporarily overcome by taking a little of the hair of the dog that bit them first.

It is passing strange that man, created in the image of God, should knowingly and wilfully put into his stomach or into his blood that which serves to steal away his brain, his moral concept, and his physical vigor. But such is the lamentable fact. And a fat, complacent fact is one of the most obvious sore-thumb experiences in life. This is the grim

action of alcohol on the cells—the action which explains the mental and physical deterioration of an alcohol addict. Its *modus operandi* for producing social, moral, and ethical degeneration will be considered in a later chapter.

V

WHO IS RESPONSIBLE?

It is natural in the average human being to want always to blame something or some one for his own shortcomings, defects or vices. It is a survival of the " 'Twas the woman that tempted me to eat of the apple" principle.

This is one of the most mischievous traits that has ever been handed down to men by the ignorance of the ages, and is particularly true of those afflicted with drug or alcohol addiction. For it has made arrant cowards of thousands and scores of thousands of men, who might otherwise be inclined boldly to face and conquer their degrading obsession.

Now, I want to go on record, once and for all time, to the effect that—all the old grannies in the world to the contrary notwithstanding—there is no such thing as inheriting the alcohol or the drug habit.

A man's father and mother—and all his relatives, back to Brian Boru or Julius Cæsar—might have been drunkards, or opium smokers, or cocaine snuffers. But this doesn't

constitute the slightest reason in the world why the man himself must inevitably be a drunkard, a "hop fiend," or a cocaine user.

For the drug addiction, like any other addiction, is an acquired trait. And acquired traits can not be transmitted.

I know the statement of this fact will cause acute mental discomfort among many who have made their family and friends and themselves believe that the unovercomeable and most grave and reverend reason for their excessive indulgence was because their father or grandfather transmitted the "hankering" for the poison to them.

But there is, in science, absolutely no basis of justification for such a claim.

This does not mean, however, that a man may not inherit an unstable nervous system from ancestors who had systematically poisoned their organisms. A man who has a father whose cells were thoroughly saturated with "booze" and tobacco, could, and probably would, inherit a defective nervous system. But he could not inherit a craving for drugs or drink.

So get into the mind of the alcoholic or the habitué, as soon as you can, and with all the force of which you are capable, that it is his

own lack of nervous stability, and not the skeleton hand of some dead and gone ancestor, that points him to the road of alcoholic or narcotic addiction. For no matter how much alcohol or drugs his ancestors may have used, it is impossible for him to be inoculated by them with a craving for these poisons.

If the man drinks or uses narcotics, he does so because he wants to, and because he has poisoned his cells so that they continually cry out for more of the stuff that is poisoning them—as is their nature.

It is a matter of fact that, in ninety families out of one hundred any one who looks with sufficient diligence—and most alcoholics can be trusted to do this—can find just such an excuse for his own weakness. In thousands of instances even physicians have taken seriously such excuses offered by their patients. But the doctor who listens sympathetically to his patient's babble of heredity is sure to be misled; while the patient who believes this too-commonly accepted theory robs himself of his strongest weapon against his addiction—his own conviction of his personal responsibility and power for self-help.

I am not minimizing the fact that certain alcoholics seem foredoomed to drink to excess

because their highly nervous organisms crave the excitation which alcohol confers; because they do not get enough to eat; or because they do not assimilate their food; or because their tissue cells cry out for fuel.

Others still become alcoholics because through the help of stimulants they have habitually forced themselves to overwork, to bear burdens of responsibility beyond their normal strength, or to overcome poor health, eye-strain, grief or anxiety.

These people may be physically or mentally abnormal. But they do not suffer from "alcoholic disease" as such. For the records of my hospital work show that where a patient with an alcoholic history has been scientifically and medically treated for alcoholism, the definite removal of the craving for alcoholic stimulants is just as effective in his case as in the case of a patient who has no trace of alcoholic taint in his family.

Further, I can show from our case records and clinical notes, that in the cases in which such a patient, through weakness, relapses into taking stimulants, he never charges that the source of his weakness is a craving for them. The urge may have been psychics—business troubles, a quarrel with his wife—or what not

—but it was not alcoholic craving, *per se*.

I want also to emphasize, with all the conviction of which I am capable, that there is no such thing as an “alcoholic disease.” There are diseases engendered by alcoholic poisoning—there are degenerative conditions of both mind and body, brought about by alcohol—but there is no such thing as the “disease of alcoholism.”

The alcoholic is a sick man. But he is sick because of alcohol. He is not alcoholic because of an inherent psychosis which impels him to the use of alcohol. Another thing: the alcoholic, mentally weakened by the reaction of the stimulant, usually ready to shift the blame for his conduct from himself, is chronically afflicted with a craving for sympathy. Mothers, fathers, wives and friends grant him not only pity, but even tolerance to this state of mind, instead of knocking the psychologically harmful props from under him and making him stand on his own feet.

Now, the only extent to which a man can be alcoholically diseased is the extent to which he has been taking alcohol in such quantities and with such regularity over a certain period that he has established a definite tolerance. If he has been taking the drug in sufficient

amounts this tolerance would mean, in the end, that if he were suddenly deprived of his stimulant delirium tremens and all the unfavorable consequences that might come out of this condition would result.

Delirium tremens is a disease; alcoholic insanity is a disease; but these are due to nothing more or less than alcoholic poisoning. If the man be medically unpoisoned, he can not experience any of these diseased conditions. Nor can the unpoisoned alcoholic have any physical or mental craving for alcohol.

Further, if he has been drinking moderately or occasionally, and the period of his present debauch is not too long extended, his alcohol can be stopt without fear of harm of any kind whatsoever.

Sickness, worry, unhappy circumstances of every sort must be eliminated as excuses for alcohol or drug indulgence. If they are not, the victim of these addictions, altho he may gain for a time the mastery of his besetting sin, will presently be certain to furnish himself with an excuse justifying his return to it. Then will come a new downfall, more difficult to retrieve than the previous one.

If anything could produce a drug disease, or a hereditary craving for a drug, it would

seem that it should be manifested in an infant born of a drug-taking mother, and doped with a narcotic, from the very day of its birth.

Yet there is, among the records of my hospital, just such a case—the child being now perfectly normal as regards her desire for the drug. Her mother, who had taken, literally, gallons of laudanum long before the birth of this child, as well as afterward, was brought to me for treatment, together with her young child, whom, with the depravity characteristic of laudanum-users, she had systematically plied with the drug.

Mother and child were both treated in the same room, and both made a splendid recovery from their narcotization. And without any subsequent desire upon the part of either to relapse into their former addiction.

So, in the final analysis, it is the victim himself who, knowing the habit-forming effects of any narcotic drug, wilfully uses this agent.

In those instances, however,—and unfortunately there are scores of thousands of these in which the drug has been administered without the knowledge of the addict—the responsibility for the development of his tolerance must rest with the one who first administered or who first supplied him with the drug.

In this respect a great army of drug-takers have never been properly safeguarded from forming the habit, much less properly helped in overcoming it.

The average physician, for one thing, has never realized how easily drug addiction may be established, and so, in perfect good faith, physicians have administered opiates for the relief of pain or discomfort, which pain or discomfort it might have been possible to relieve in other ways.

Still the patient naturally associating his relief with the means taken to relieve him has persisted in the use of the opiate when possibly it was no longer necessary. This is particularly true if this suggestion of relief happens to be associated with the use of the hypodermic. Conservative physicians are so keenly aware of this possibility that some of them go so far as never to carry a "hypo" on their visits, even tho daily observation shows that the average doctor considers the instrument indispensable.

Yet that it is not indispensable is proved by the fact that two of the busiest and most successful doctors of my acquaintances have used as little as a half a grain and two grains of morphine, respectively, in an entire year.

Both these men are convinced that only a small percentage of drug habitués have begun their practise because of some serious ailment demanding narcotic relief. And they are also convinced, as I am, that even this small percentage might have been markedly decreased had more attention been paid to treating the cause of the condition rather than its temporarily painful symptoms.

For it is only natural that the man who takes an opiate, consciously or unconsciously, and receives from it a soothing or stimulating or pleasant effects, turns to it again in case of the same need.

The time soon arrives when the pleasurable part of the effect ceases to be obtained. So, in order to gain the soothing or stimulating effect, the dose must be constantly increased as toleration increases.

With those who take an opiate to blunt a pain which can be removed in no other way, the drug is fulfilling its legitimate and supreme mission. It admits of no substitute. Where it was ever physically necessary, and that necessity still continues, an opiate would seem to be inevitable. But the percentage of such sufferers, as I have said, is small. The overwhelming majority of drug addicts are

impelled to their addiction simply by craving—that intolerable craving that arises from deprivation of the drug.

Pure, unadulterated ignorance is often responsible for the development of narcotic addiction. I remember a case of a young girl of fifteen or sixteen, employed to “mind” the child of a newspaper woman, whose work kept her away from home many evenings every week.

This “nurse-girl,”—not vicious or a drunkard, or immoral, but with merely the young girl’s love of a “good time”—through some means or other, found that a few drops of laudanum would quiet a crying baby and put it to sleep for several hours.

So, knowing nothing of the harmful effects of the “dope,” she adopted the practise of giving the baby left in her charge a little tincture of opium every night. After which she was free to go to the “movies” or to some little gathering.

It was only because of the increased fretfulness and growing emaciation of the baby, together with the clear-headedness of the family physician, that the truth was finally disclosed. It required a regular course of de-poisoning treatment before this infant was once more restored to normality.

Possibly there are many of such cases every year in various parts of the country—and will be, as long as paregoric and other poisons are sold openly.

It is for these reasons, I contend, that 90 per cent. of the opiates used in this country are, strictly speaking, unnecessary. In the thousands of cases that have come under my observation, 75 per cent. of the habitual users fall into the evil without reasonable excuse. Beginning with small occasional doses, they were gradually swept into the white waters of the maelstrom of addiction.

Yet, while any one can go into most drug stores throughout the United States and buy paregoric, it can readily be understood that upon the laxity of the law which permits this practise there can legitimately be charged a damning responsibility.

Paregoric contains 46.5 per cent. of alcohol and 1.9 grains of opium to the fluid ounce. A "shot of booze" that would satisfy the most exacting toper, and a dose of morphine equivalent to that usually given a normal adult!

Yet the sale of this product comes within the law that permits the traffic in "remedies" that do not contain more than "2 grains of opium; or $\frac{1}{4}$ grain of morphia; or $\frac{1}{8}$ grain

of heroin; or 1 grain of codeine; or any salt or derivative in one fluid ounce liquid, or one avoirdupois ounce of solid or semi-solid preparation."

Cough mixtures and "anodynes" containing these dangerous habit-forming drugs are sold indiscriminately, practically without let or hindrance, under the mercy of a law that protects the self-sacrificing manufacturers of doped patent or proprietary medicines in their exploitation of a poisoned public.

In fact, the extent to which the manufacture, sale and use of many so-called "patents" and "proprieties" are responsible for the growth of drug-addiction is even yet not understood. Yet these preparations are all dispensed within the law. They are part of the regular stock in trade of every drug store, and are sold in the regular course of business with perfect legal propriety

Yet case after case could be cited where the taking of opiates began with the taking of proprietary medicines, sold freely under the present law over the counters of drug stores without a physician's prescription.

The patient goes to a druggist and gets something for headache, neuralgia, insomnia, a troublesome cough, or rheumatic or gouty

trouble. The "something" he gets contains just enough narcotic to relieve the pain, and so the man or woman comes back regularly for more. Thus addiction is established; for, as we have seen, drug addiction is fixt, not by the quantity of the drug taken, but by the regularity with which a quantity, however small, is taken for a period long enough to establish tolerance and fix the habit.

Confirmed drug habits have also grown out of the use of "diarrhea mixtures" containing certain small quantities of opiates that can be prescribed and sold by the druggist in any quantity. I have trustworthy knowledge of the fact that when the Harrison Narcotic Law went into effect, a confirmed opium-taker in a Connecticut village, finding that she would have difficulty in getting her accustomed supply of drug, went to her apothecary in great distress.

She learned from him that paregoric would produce the results her system had come to demand. She experimented with one bottle of paregoric, and finding it satisfactory for her purposes, immediately purchased all the paregoric the druggist could sell her—no less than eight gallons!

Since the passage of the law requiring the

express statement of any dangerous ingredients in a compound—a law originally designed to protect the public against habit-forming drugs—the sale of these preparations has increased with plague-like rapidity throughout the country.

So it seems a just inference that the information given, instead of serving as a warning to the unwary, has been chiefly effective in pointing out the dangerous path to those who, without this gratuitous help, would otherwise have never known where to find it. And, lest it be thought that this devastating increase in drug consumption has been due to increase in population, or to increase in immigration, let me emphasize the fact that the immigrants are not drug-takers. Among the thousands of addicts whom I have treated or known, I have never seen an Italian, a Hungarian, a Russian or a Pole. Moreover, I have met with only four cases of drug-taking among Hebrews. Few Jews, except in the underworld, acquire the habit knowingly. It may become fastened upon them through the use of a medicine, the danger of which they did not realize. But once freed they do not again come under its sway. The practical sagacity of their race is their surest safeguard.

Nor is the addiction to habit-forming narcotics a problem that is confined to America alone. London, which is not even threatened with a curtailment of its alcoholic beverages, has the same evil to combat.

Only recently, for instance, a young actress, a popular music-hall singer, died as a result of an overdose of cocaine. Investigation developed the fact that she had no intention of committing suicide, but that the drug was obtained by her regularly. As a result of this and numerous other cases, English authorities have conducted raids which have uncovered a regular criminal traffic in cocaine.

In our own city of New York the Supervising Internal Revenue Officer instituted a raid in which two hundred drug victims, six physicians and four druggists were caught, while a fortune in narcotics was seized.

It was estimated that these six physicians—as busy a pack of male Borgias as ever went unhung—had written 500,000 prescriptions for morphine, cocaine and heroin within a few months.

One physician had the names of more than three thousand addicts in his prescription blank-books—men and women sold into the most abject of all forms of slavery. For-

tunately there are only a few out of many thousands of medical men who stoop to this worst of all forms of moral pandering. It is, however, to the credit of the great mass of the medical profession that they have kept their skirts free from this contamination.

And yet the situation is grave. It demands careful consideration and a drastic weeding-out of all these degenerating influences, for it is essentially a medical problem.

In view of all these facts, and in view of the further fact that the situation is rapidly growing no better, all the various interests concerned must be brought to cooperate to lessen this evil.

In no other way is it possible to fix the responsibility and to correct an iniquity which is, perhaps, in all the history of the world the most debasing and degrading that has ever been perpetrated by man on his brother man.

VI

THE MIND OF THE ADDICT

THE average alcohol or drug-addict is the most obstinate and unreasonable of all mammals. For the prayers and pleadings of an habitu  's wife or mother, the tears of his sweetheart, the threats of his employer, the punishment of a magistrate, are alike ineffective, in the vast majority of instances, to work in him the miracle of reformation.

The alcoholic addict, in particular, is in an abnormal mental and physical condition. He is a sick man, with an inflamed brain—that kind of a brain that leads to everything in this world that is not worth while—including his own moral and ethical deterioration. And before anything constructive can be done for him, he must, if possible, be made normal again—by definite medical means.

In one respect alcoholics are much more hopeless than the average drug fiend, for the drug-addict's demoralization is usually not nearly so complete as is that of an alcoholic. And at least one-half of the world's chronic

alcoholics have syphilitic histories—something which can not be said of drug habitués—lax tho many of them are in point of morality.

This is inevitable for the reason that the alcoholic is usually susceptible to the advances of any woman whatsoever, without regard to race, color, previous condition of servitude, or present condition of cleanliness—and, as a rule, devotes less than the normal attention to his own wife.

To set out to reclaim a chronic alcoholic is most always, therefore, to undertake to reform a man who has been crippled morally and mentally, as well as physically.

But it is not in his sexual life alone that the alcoholic shows deterioration. He demonstrates his shortcomings also in a loosening of the sense of moral obligation and in the inevitable development of absolute irresponsibility. Avoidance and neglect of customary duties, evasion of new ones, extraordinary resourcefulness in the discovery of the line of least resistance and, finally, amazing cunning and treachery in all his dealings—this is the sordid progress of the alcoholic.

The immediate action of morphine is not nearly so inhibiting upon the mental faculties as is the action of alcohol. Under the sway

of opium, however, a man does venturesome or immoderate things—things he would never otherwise dream of doing, simply because he has lost his sense of responsibility.

For instance, I have had patients who took as much as sixty grains of morphia in a single dose, an overdose for about one hundred and fifty people, and about fifty grains more than the takers could possibly assimilate, or than they required in order to produce the desired effect—an excellent illustration of how the addiction destroys all judgment and all sense of proportion.

There is one phase of drug addiction which has worked seriously to the detriment of the American public, and which has made the situation infinitely more acute than it otherwise might have been. This is the indiscriminate sale of narcotics and other habit-forming drugs. On the continent such a condition simply could not exist. There *are* no doped patent medicines, no drugs, no “soothers” or “sedatives” to which the man restricted in his alcoholic potion can turn. When Europe “goes dry”—unless it becomes highly Americanized and poison-polluted in the meantime, which is hardly likely—Europe will stay dry—and very sober. Except for coffee bibbling

and tea tipping, there is nothing else for it to do.

This suggests also a comparison with our Oriental second cousins, a comparison in which we come out decidedly second best. We have laid much fatuous and flattering unction to our souls in the past in respect to the fact that while we might, for instance, number among our population many hundreds of thousands of drunkards and drug fiends, at least we had never sunk to the Chinese level of becoming opium-smokers.

Now I want to emphasize right here that the only reason why opium-smoking has been, up to the present, less prevalent in the United States than in China is merely because the preparation of opium and the machinery for smoking it are not convenient.

If opium-smoking had been generally countenanced in America, if the sale of the pure drug had been for generations fostered here as it has been in China, if houses for its sale and preparation had been found everywhere, if its social aspects had been considered agreeable, if society had put the stamp of approval on it, opium-smoking would be as prevalent here as it has been in China.

Our human nature is essentially little dif-

ferent from that of the Chinese—but lack of opportunity is everywhere recognized as a great preservative of virtue. Were the conditions the same in both cases, there is no reason to suppose that opium would not be smoked here as much as in China.

On the other hand, the alkaloids of opium, administered hypodermically or as ingredients in many patent medicines, *are* thus convenient, and, as a result, this phase of the evil has reached overwhelming proportions. Nor have we any cause for congratulation upon our particular form of the vice, for opium-smoking is infinitely less vicious than morphine taking.

I find that my conviction in this matter is shared by no less an authority than Sir William J. Cullins, K.C.V.O., D.L., M.D., B.Sc., F.R.C.S., and President of the Society for the Study of Inebriety.

Sir William, writing in the *British Journal of Inebriety*, says:

“Before I went to the International Opium Conference at the Hague, I made it my duty to visit ‘Chinatown’ in East London—Pennyfields and Limehouse Causeway—and saw the opium-smoking

dens for myself. I confess I came away with the reflection that that vice, objectionable as indeed it is, is less anti-social and less tissue-destroying than some of the results of the gin-palace. It is idle to wax eloquent over 'Lo, the poor Indian, whose untutored mind sees God in stone and hears Him in the wind' with his opium-pipe, and to palliate or ignore the morphine maniacs, the cocaine addicts, and the alcohol fiends who infest society.'

And this suggests also that our national vice of cigaret-smoking may be even more harmful, and even more deteriorating to morals, than is the Oriental vice of opium-smoking.

For the narcotic action of tobacco produces a peculiar cunning and resource in concealment; it develops, when occasion arises, the desire to deceive and the desire to shift obligation and evade direct responsibility. Tobacco does this more mildly than opium, and it does so more appreciably with boys than with men; but, as with opium, it is part of the narcotic effect in all cases.

Remember that if a man smokes and inhales tobacco excessively—which is a usual

custom among cigaret-smokers—he is narcotizing himself more than when he smokes opium moderately.

This observation may serve to give us a more comprehensive and a better qualified viewpoint of the mental aspects of toxic addiction.

There are certain characteristic changes that are almost invariable in the mind of a chronic drug-taker. For one thing, it is notorious that, no matter who he is nor how he acquired the addiction, on the smallest excuse he will advise others to take the drug whenever pain or fatigue give the slightest occasion for it. While he may grow callous to everything else, he will have an abnormal sympathy with suffering. Thus it will readily be seen that there are few more dangerous members of society than the physician who is addicted to a drug.

This same thing is true of nurses who have developed the habit. For a sympathetic woman is even more likely to yield to the pleadings of suffering patients than is the sympathetic doctor. Like the doctor, the nurse is human, neither iron-nerved nor iron-muscled. Frequently she is under terrific strain, which might impel toward the use of

stimulants of any kind. That which she can administer to herself by means of the hypodermic is closest to hand, is easiest to take, and least likely to be discovered.

Also, the nurse is as susceptible to pain as are any of us. Suffering, with the means of alleviation at her hand, and, as with the doctor, what is more natural than that she herself should use the hypodermic for her own relief?

Thus it comes about that probably a larger proportion of trained nurses than of doctors are habitual drug-users. This is not a statement which is critical of the profession, for if all mankind knew of drugs, possessed hypodermics and knew how to use them, a very large proportion of the human race would resort to this quick and effective, if inevitably perilous, means of finding comfort when agony assailed them.

Our usual methods of dealing with these cases of toxic addiction are hopelessly inadequate to influence favorably the mind of an habitu  . One of the most grievous errors we commit in this connection is to hold the threat of punishment over his head.

Punishment breeds rebellion, and a rebellious man is a most unlikely subject for reform. For the inflamed brain not only carries

grudges, but is almost sure to intensify them.

For instance, the man discharged from employment, or arrested while in an abnormal alcoholic state, is stimulated to resent—not to repent. The employer who discharges a good man from his position because of drunkenness not only fails to deal intelligently with the subject or the man, but may very likely be committing a crime against society by robbing it of a useful citizen, while at the same time forcing a useless one upon it.

The victim of drugs differs psychologically very materially from the victim of drink. Until his trouble has reached an acute stage, the alcoholic feels little interest in any remedy for his alcoholism. Many even deny to their friends and themselves that they are alcoholics, until they have reached the point akin to hopelessness in their friends' eyes and their own.

The drug-user, on the other hand, knows he is a victim as soon as he becomes one; in ninety-nine cases out of a hundred he is intensely desirous of being relieved of his habit. Thousands of alcoholics will defend their vice. A library might be filled with books glorifying alcohol and the good fellowship and conviviality that it is supposed to promote. Yet

one might search a long time for a victim of any drug habit who would speak affectionately of the substance which has enthralled him. Nor has any poet ever written glorifying the marvels of morphine.

There is another phase of the drug evil which is most important. This is the necessity for educating the public in regard to the very definite relation between alcoholism and insanity. There lies a public peril of unappreciated magnitude in the fact that mere deprivation, the only method so far followed, has been—and if it is not corrected will continue to be—one of the principal feeders of our insane asylums.

The case is somewhat different with drug victims. Ordinarily they will not become insane, unless deprived of their drug, altho in the final stages of the habit they are likely to become incompetent, and subject to certain hallucinations, imagining the existence of plots against them, suspecting unfairness on every hand, taking easy offense—exhibiting, in fact, a generally distorted mental condition.

This brings us to the kernel of the matter. No man who has become addicted to the use of alcohol or drugs can possibly abandon them unless he has first undergone a complete

mental change, and in ninety-nine cases out of a hundred this alteration of the mental state will not come until he has experienced a physical revolution.

The reason for this is simple. With alcohol, excessive use really deteriorates body and brain tissue, and tissue degeneration transforms for the worse the entire physical and mental makeup of a man. The confirmed alcoholic is in a state which, save in rare instances, nothing short of specialized medical treatment can correct.

Mere general building-up of bodily tone is as ineffective with alcoholics as is enforced deprivation or punishment. I emphasize this point particularly because many men are afraid to take treatment for alcoholism, lest through it they lose their standing with themselves or with their neighbors. Self-respect must be protected at every stage of the struggle as the patient's only hope. But this hope, either with drug or alcohol victim, is delusive unless first preceded by the definite physiological change which depoisoning treatment brings about.

Then, with a system free from the drug toxins and tissue-poison accumulations, and with a nervous and physical organism stabil-

ized by active hygienic measures, the vast majority of poison addicts, no matter what the nature of their poison, can be restored to an absolutely normal condition. And if they are really desirous of keeping clean, they will *stay* this way.

For there is no reason, except their own unwillingness to quit, why their habit should not be as definitely removed as would be the results of auto-intoxication, mumps, or focal infection—once these conditions were corrected. And herein the patient must minister to himself.

VII

THE PROBLEM OF PROHIBITION

SANITARIUMS, hospitals, and insane asylums are crowded with victims of alcoholic tolerance, alcoholic abnormality, and alcoholic degeneration. In private practise the number of cases directly resulting from, or complicated by, alcohol runs into the scores of thousands.

And while alcoholism is by no means so fatal a condition as tuberculosis, yet, inasmuch as there are probably forty alcoholics to every consumptive in the United States, the death-rate from alcohol must be a perpetual source of joy to the undertaker.

This, by way of preamble to establish, is what should be self-evident: that alcohol creates a physical, mental and moral depreciation, and that the alcohol addict is a sick man.

Now one of the grim things about the alcoholic sickness is that it generates an overpowering craving for the thing that causes the sickness. This terrible craving—this racking of soul on the Procrustian bed of booze—can

be palliated by only one thing—a little more of “the same.”

It is no use trying to placate the craving with substitutes that are “just as good.” There isn’t anything “just as good” as alcohol for an alcoholic, except something that may be much worse, the effects of which may be even more degrading and soul-searing than are the effects of alcohol.

Yet now the manufacture and sale of alcohol for beverage purposes in the United States is forbidden. How this may affect the life, even the reason itself—ininitely more important than life—of scores of thousands is a matter which those responsible for the law seem to have rather consistently ignored. And yet this is perhaps the most vital question in connection with prohibition.

Upon its solution, and upon the provisions that must be made to meet this solution, depends the success or the failure of the movement. If the remedy proves, on experience, to be infinitely worse than the disease it was intended to relieve, it is only reasonable to believe that we may be glad to have our disease back again—as the lesser of the two evils.

For we are suddenly depriving thousands

of habitués of necessary stimulants, something which should never be done with any chronic case of alcoholism without having first made provision to unpoison him of the condition which makes those stimulants necessary.

The result will be a stampede for substitutes. Shoe-blackening, patent medicines in an alcoholic menstrum—anything and everything that smells or tastes like alcohol—will be poured into the systems of addicts.

Some “herpicides,” carrying as much as 40 per cent. of alcohol, are even now achieving a tremendous vogue in certain sections of the country, while flavoring extracts, such as jamaica ginger—containing 93.5 per cent. of alcohol—are among the most dependable of “nips” for those who don’t care so much for the form in which they get their alcohol as they do for the alcohol itself.

“Tonics,” “bitters,” “compounds,” “stomach cures,” and other alcoholic combinations, are being shipped by the carload into arid States.

Kerosene and gasoline cocktails will achieve an ever-increasing sphere of favor. Varnish, turpentine, and the deadly wood-alcohol will furnish their quota of victims. Blind-tigers, bootleggers, and illicit stills will wax obese.

Drug stores will reap a golden harvest from putting up "prescriptions" for intoxicants.

The *cognoscenti* are instructing those not quite so well informed as to the striking possibilities of a few raisins added to a bottle of cider. They are telling what will happen when an eighth of a cake of yeast is incorporated in a bottle of "near beer" or grape-juice. They are demonstrating the chemical reaction that takes place when water, sugar, and a little yeast are encouraged to make nature do its worst.

Then, too, the manufacturers of small "home" stills are doing a thriving business in preparation for the dry wave. The most popular of their products is the kind that can be used in kitchens. One full-grown still is guaranteed to turn out sufficient "fire-water" to keep every member of a large family in a perpetual state of intoxication.

So, in one hundred thousand different ways, according to no less qualified an authority than the United States Treasury Department, men and women may avail themselves of the poisonous comfort of alcohol.

But, most dangerous and most far-reaching of all, the use of health-destroying and habit-forming narcotics will increase beyond any-

thing ever dreamed of in the palmy days of alcohol.

One brand of "cough medicine" recently examined by the Government experts, was found on analysis to contain 45 per cent. of grain alcohol, with 1.9 per cent. of opium thrown in for good measure.

Under the Harrison Act, this and other combinations of alcohol and opium can be sold without restriction in any section of the country quite irrespective of local conditions.

This is entirely apart from the pernicious activities of the druggists in providing for the inevitable narcotic increase following prohibition. In this connection it is interesting to note that the wholesale druggists, during the month of January, bought more narcotic drugs than in the entire year of 1918, and the demand was so great in February that the manufacturers limited the amount of drugs sold to a wholesaler. So it is evident that these altruists intend to be bloody, bold and resolute in helping their drug-addict victims on their swift way to hell.

For under the present Federal laws the druggist is permitted to put up and to dispense any preparation he may see fit to sell, so long as those come within the very lax and

lenient minimum dosage scale—which is a very liberal dosage, indeed—permitted by the Federal Narcotic Law.

He is permitted to use certain minimum quantities of habit-forming drugs without making any accounting to the Government for these. He is at liberty to sell, without legal restriction, combinations containing habit-forming narcotics, which, if used for a long enough period of time, are quite as certain to establish a drug tolerance and a drug craving as tho they had been taken “straight.”

For it is not the quantity of the drug taken that creates the craving for more of the same. It is the nervous and organic reaction to the drug itself, plus the regularity of its administration, that starts the conflagration.

And remember, that combining the opiate with pink syrup, or with other ostensible “remedies,” does not destroy the physical action of the narcotics. All the powerful potentialities for evil—for physical, mental and moral shipwreck—are present in these nostrums.

Some idea of the dangers from these may be gained from the experience of the late Dr. Asbel P. Grinnell, for seventeen years Dean of the Vermont Medical College. After the

adoption of prohibitory legislation in Vermont, Dr. Grinnell sent out to all wholesale and retail drug stores,, general stores, and groceries that carried drugs as a part of their equipment, a letter of inquiry concerning the sale of habit-forming drugs.

Such was the personal standing of Dr. Grinnell in Vermont that he received replies from all but two or three of those addrest. These replies indicated that sales of habit-forming drugs had increased so rapidly following the arid wave that, at the time of inquiry, there was a daily consumption of opium and its alkaloids—morphine, heroin and codeine—equal to one and one-half grains for every man, woman and child in Vermont!

This alarming increase was attributed solely to the prohibition of the use of liquor. Dr. Grinnell concluded that the attempt to enforce abstinence upon the man who wants to drink is not only ineffective, but actually destructive. And that, while society may save itself from a few drunkards by prohibition, it is more than likely to get a disproportionate number of lunatics and drug-fiends to fill their places. This opinion is confirmed by Dr. Royal S. Copeland, Health Commissioner of the City of New York, who recently pointed

out that the increased consumption of drugs would be inevitable under a prohibitory restriction against the sale of alcohol. And this consumption will by no means be confined to the criminal class.

“Already you will find drug-users,” said Dr. Copeland, “among lawyers, judges, doctors—in fact, in every strata of society. In the underworld of New York you will find 10,000 drug addicts, and every crime of violence committed you may know has been perpetrated by one of them. It is safe to say that in all New York one person in thirty is a victim.

“During one month, one drug store sold 500 ounces of cocaine, enough to send 2,500 people to hell. And worse than all is the fact that there are physicians, members of my own profession, writing from 100 to 200 prescriptions a day for 25 cents a prescription. They should be boiled in oil, and if there is a hell they should go there and sizzle for eternity.”

These are strong words, but they seem to be warranted by the facts of the case.

In the South, where State prohibition has been enforced for a number of years—against the negro and the “poor white,” anyhow—

matters are in even a worse shape, as every traveler knows.

Unable to obtain alcoholic surcease from real or imagined ills, these victims of the "take-something" habit have gravitated to cocaine and heroin, which they seem to be able to obtain in almost unlimited quantities.

So that now, in North Carolina, for every eighty-four patients admitted to the State insane asylums one is a drug-addict. In Georgia, one in forty-two is afflicted with drug disorder, while in one Mississippi hospital, out of every twenty-three patients one is a slave to cocaine.

It works "t'other way around with equal facility." In India and China, following the forced reduction in the consumption of opium, there has been a correspondingly marked increase in the use of alcohol.

Now this is a condition, not a fanciful theory. It is a condition not confined to any race or to any form of civilization. Nor does the character and quality of the "dope" matter so much as does its availability.

About it might be said that narcotic addiction is a pervading human impulse. So, if we do not want to cause death, insanity, and millions of hours of needless suffering, we

must be prepared to reckon with this impelling impulse.

This does not mean that prohibition in itself is an evil. Indeed, the prohibition of the manufacture and sale of alcohol for beverage purposes is perhaps one of the greatest benefits ever forced upon an unappreciative populace. Many distillers and liquor dealers themselves admit this.

But prohibition of alcoholic beverages alone is not enough. There must also be prohibition of the sale of poisons—poisons far more destructive in their influence than alcohol. Therefore, we must take a much broader view of the problem than we have thus far permitted ourselves to take.

For one thing, we must learn to regard the alcoholic as a sick man—not as a criminal or a degenerate. Indeed, most addicts are no more to be blamed for their condition than is a hunch-back or a cretin to be blamed for his condition.

Yet, let me again emphasize, narcotic addiction is *not* inherited. This is an acquired trait. No one is ever born with a taste for morphine, or hasheesh, or cocaine, or alcohol. This is an erroneous idea, harped on through all the ages, as an excuse for over-indulgence

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and as an argument advanced by the excuser for not breaking the shackles of his habit.

Yet the fact remains that millions are born with a weak, unstable mentality and a flabby will, prone to excess in everything except well-doing and deficient in resistance to every form of temptation. Their highly strung nervous systems crave the abnormality which alcohols and drugs offer. They are sick. And we are doing nothing to save them.

This is the crime of our social order against the drunkard. It is a crime intensified by our unwillingness to cooperate with the addict toward his own reclamation, and further intensified by our supine willingness to allow him to be poisoned by drugs infinitely worse in their effect than alcohol.

For what avails it to deprive a drinker of pale ale and leave him free to buy and consume any amount of paregoric? Where is the gain in prohibiting the sale of high-balls and encouraging the demand for heroin? And what use is it to restrict the consumption of beer and light wines, which are relatively harmless, and stimulate the doping with codeine and the snuffing of cocaine—habits infinitely more injurious?

We should at once institute some intelligent

effort to cope with drink and drug-addicts. Under our present system the alcoholic is taken to some city hospital, or to any of the big State hospitals throughout the country, and treated as an "emergency case."

Usually the first thing done to him is to deprive him of booze. Then he has to take the deprivation consequences. If he is an old chronic, whose cells are saturated with long indulgence in alcohol, he stands an excellent chance of developing delirium tremens.

If he escapes dying, he may be more than likely to develop an alcoholic "wet brain." This may mean alcoholic insanity. If he has money he may now become a patient at some private sanitarium for an indefinite period. If he is without money, he may board at some State hospital or asylum for the remainder of his life. For without definite medical care, a permanent relief of "wet brain" is almost in the miracle class.

Under our present antiquated methods there is no intelligent classification of cases. The treatment is hopelessly routine and uniformly "expectant." Little is done to rid the system of the accumulated toxins of alcohol excesses.

Outside of a few sweat-baths,—which aren't a drop in the bucket of treatment necessary

to rehabilitate an addict,—no effort is made to scour his cells and glands clean of the element that makes them cry out for further narcotization. And but little attempt is made to build up the nervous system and to increase the moral, physical and nervous resistance to alcoholic desire.

Hence it is that relatively few cases can be normalized and ultimately salvaged. And the saddest feature of the whole matter is that we—the great public—are absolutely indifferent whether they are or not.

Here are a few items of testimony to prove this. At the present time there are few public institutions where a man, desiring to be freed of the craving for alcohol or drugs, might go either as a charity patient or a “pay” patient. And no recognized charity makes any provision for medical treatment of the drunkard.

The one place in New York set aside for special work in the reclamation of alcoholics has been finally closed as a failure. The neglect to use successful means of treatment and the pitiful lack of knowledge as to how to deal with this type of patient, both in a medical and in a sociological way, foredoomed the venture. And more’s the pity!

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However, we are still sending missionaries and money to China—in many respects the most enlightened country on earth. This may help some of us to maintain our psychical equanimity.

Only two States in the Union—Massachusetts and Iowa—maintain colonies for alcoholics, colonies where nerves and bodies may be built up by contact with Mother Earth, while poisoned systems are unpoisoned through natural elimination, and through the vivifying and toxin-consuming effects of oxygen.

This is a beginning. But it isn't enough. Nor is its scope sufficiently wide. For, in addition to segregation and healthful colonization, some definite medical treatment should be undertaken which would effectually cleanse body, nerves and brain.

There is only one scientific way to accomplish this. This is to establish, in every metropolitan center, an institution devoted to the relief of drug and alcohol addiction. This hospital should be fitted out with the most modern and best approved methods of depoisoning drunkards and narcotic addicts, and putting them in a physical and mental condition for keeping themselves depoisoned.

Complete descriptions of this treatment have been published from time to time in the most prominent medical journals in the country. In fact, Dr. Lambert himself, the President of the American Medical Association was the first to give an account of it.

If any physician among my readers would like to know more about this treatment, I should be glad to send him complete and exhaustive details concerning it.

Following the medical treatment, there should be a course of exercises, baths, electricity, and every variety of physical therapeutic measure calculated to put body and nerves in the best possible condition of health.

Institutions qualified to do this class of work should be established, without delay, in order to provide the alcoholic with a certain means of recovery.

If such institutions were available everywhere throughout the country—organized possibly as Government Units—more could be done to clean up the affliction of drunkenness and prevent the impending increase in drug consumption than could be accomplished by all other agencies combined.

If these retreats are not available by the time the country goes "bone dry," the prohi-

bitionists will have to assume the responsibility for a very terrible state of affairs. Unless something is done, and done soon, there won't be mad-houses enough in the land in which to sequester those crazed by drugs, "dope" and drink.

Once upon a time the question was asked, "Am I my brother's keeper?" There is only one answer to this question. It shouldn't be hard to find it if our hearts are in the right place.

VIII

WHY THE ADDICT NEEDS DEFINITE TREATMENT

IN one of the largest hospitals in the United States I once ran across an old woman crooning while she rocked an imaginary baby. She had been formally and legally adjudged insane by the State's experts. As a matter of fact, she was suffering only from an hallucination due to alcoholic deprivation.

I suggested definite medical treatment when I discovered that she was about to be transferred from the alcoholic ward to the insane pavilion. In two days after the administration of this treatment she had lost all her hallucinations.

I mention this case as typical of thousands that are every year allowed to become permanent mental derelicts because of the lack of intelligent consideration of their condition.

I am firmly convinced that commitments for insanity in the United States might be decreased by one-third, if in every case where insanity was suspected, but in which an alcoholic

or drug history could be traced, the patient could be subjected to the necessary medical treatment before the final commitment was made.

For the sudden deprivation of drugs and alcohol which follows the imprisonment of alcoholics and drug-users upon disorderly or criminal charges has produced thousands of cases of insanity sufficiently marked to warrant the subjects being placed in insane asylums.

Certainly, no man or woman with any inkling of the real facts of the matter will go to any institution for relief from drug addiction where the only treatment offered is that of enforced deprivation, for he or she knows that such deprivation may mean death.

The method of reduction, as universally practised, is rarely carried to the point where it would do any good, even if good were thus possible. But it is not generally possible.

In the first place, lessening the dose is of little avail; there is as much suffering in the final deprivation of a customary quarter of a grain as of twenty grains.

Only recently we had just such a case at our hospital. This man, a physician, had, with the aid of his wife and a nurse, taken

the "diminishing dose" treatment, and had, by a miracle, entirely "gotten off" his morphine. When he came to us he had been without even a fraction of a grain for more than two weeks.

Yet he had just as intolerable a craving for the drug, his withdrawal symptoms were quite as acute, and his restlessness every bit as pronounced as when he first commenced his "cure." His fierce yearning for the poison had not been diminished one iota.

After four days of active depoisoning treatment, however, the doctor was absolutely relieved of even the slightest desire for morphine. And after a lapse of many months, he still continues in this state—and no doubt always will.

For any man who would undertake, of his own initiative, the definite treatment of his own case, with all the suffering the deprivation treatment entails, can be thoroughly relied upon to refrain from ever again returning to a condition where a repetition of this experience would be necessary.

Another thing, it can not be ascertained by gradual reduction whether there is any disability which makes morphine necessary, since no intelligent diagnosis can be made so long

as a patient is under the influence of even the smallest quantity of the drug.

A patient whose consciousness of pain is dulled or eliminated by the use of drugs can not accurately describe to a physician the most important symptoms of his ailment. Without the assistance of such a description the physician is so handicapped that all the skill which he has acquired in practise, and all the knowledge he has gained from study, are likely to be of no avail.

So, obviously, the first step in taking up a case should be to discover whether any such disability is present, and if so, whether it is one that can be corrected. Otherwise it may be a waste of time to try to correct it.

One of the most difficult problems of my work has been to discover ways by which the medical profession can be made to understand the really serious meaning of chronic alcoholism. This is very important, for most delirium, the primary cause of which lies in alcoholism, is amenable to treatment.

It is either exhaustion or lack of alcohol which first produces delirium in an alcoholic case, whether that exhaustion is due to the patient's inability to assimilate food or alco-

hol, or whether it is due to the fact that, being under restraint, alcohol is denied him.

Many friends of alcoholic subjects and many physicians in private practise have believed that they were doing the alcoholic a great service when they put him where he could not get alcohol, and helped him over the first acute stages of the period of deprivation by the administration of bromide and other sedatives.

Yet this often predisposes to delirium, and then to a "wet brain." If the patient survives this, his next development is more than likely to be prolonged psychosis, or, in the end, permanent insanity.

It is because of this that I consider the chronic alcoholic more clearly entitled to prompt and intelligent medical treatment than most other sick persons. With the alcoholic, as with the drug-taker, the first thing to be accomplished is the unpoisoning of the body.

In order to secure this result, it is first necessary to keep up the alcoholic medication with sufficient sedatives, employing great care lest the patient drift into that extreme nervous condition which leads to delirium. If delirium does occur, nothing but sleep can bring about an improvement. This is the point of devel-

opment at which physicians, not properly informed in regard to such cases, are likely to employ large quantities of hypnotics. And frequently this course is followed until the patient is finally "knocked out."

In many instances an accumulation of hypnotics in the systems of persons thus treated has proved fatal.

There are no circumstances in which it is advisable for a physician in private practise to attempt to handle a case of chronic alcoholism in the patient's own environment. Efforts to do this are constantly made, with a result that many needlessly die from lack of alcohol, while an even more tragic result is the unnecessary entrance, first, into the psychopathic wards of our hospitals, and thence into our asylums for the insane, of innumerable cases which could have been prevented by intelligent treatment for alcoholism or drug addiction.

At present the only public recognition of the alcoholic is manifested through some form of penalization. He loses his employment, he is excluded from respectable society. In extreme cases he is taken into court and subjected to reprimand, fine, or imprisonment.

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Nothing is done to bring about his reform, except as the moral weight of the non-remedial punishment may arouse him to his peril and set his own will at work. Instances where this occurs are rare, because the crisis always comes when, through the influence which alcohol has wrought upon him, his brain has been befogged and his will weakened. Society does virtually nothing to awaken that will or to assist its operation.

The man whose drinking has so disarranged him physically or mentally that he is obviously ill is, it is true, taken to the alcoholic ward of some hospital, but no effort is there made to treat his alcoholic addiction. For example, Bellevue and Kings County hospitals, New York's two "alcoholic wards," are institutions devoted especially to the treatment of emergency cases.

As a matter of fact, the alcoholics usually taken to these hospitals are merely "sobered up." As soon as they are sobered and have achieved sufficient steadiness of nerve to make a discharge possible, they are turned out again into the liquor-ridden city, with their craving for the alcohol which mastered them no weaker, and with their resolution to resist its urging no whit stronger than it was before

the crisis in their alcoholic history engulfed them.

Not infrequently it follows that, while still in full possession of the alcoholic addiction, the addict will, in addition, contract the hypodermic habit, a complication of addictions that only rarely is dealt with successfully.

It is also a fact, and one not generally recognized, that the commitment of the alcoholic to an ordinary penal institution is a perilous experiment. The experiences which various authorities connected with the Department of Correction in the City of New York have had with drug and alcohol smugglers indicate a condition that exists more or less generally in penal institutions throughout the country.

The drug-user or alcoholic who has been locked up in prison is in no way relieved of his craving for the substance which is harming him, and his efforts to obtain it will be desperate.

The men who surround him as prison-guards are not usually of a high type. If the man has money, many of these guards, especially if they themselves be drug or liquor addicts, will arrange to smuggle to him what he craves.

Inasmuch as it is materially easier to smug-

gle drugs into a prison than it is alcohol, many alcoholics have been changed in prison to drug-takers, and after this change the metamorphosis of the mere drunkard into an actual criminal has often occurred.

The administration of a definite medical treatment should, therefore, be regarded as imperative in all cases of drug addiction, and in most cases of alcoholic addiction that appear in our prisons. In the cases of alcoholic addiction, imprisonment should end in first-offenders with the completion of the treatment and the restoration of the subject's mind to normal.

I can not too strongly or too frequently reiterate the statement that there is no more desperate illness than chronic alcoholism. Nor is there any illness that requires more intelligently directed and definite treatment or more sympathetic and human understanding.

IX

BREAKING BARLEYCORN'S BONDS

DURING the summer of 1913 I visited a large hospital in Edinburgh and discust alcoholism and its treatment with the visiting physician.

"Is there no place in Scotland for the care of acute alcoholism?" I asked.

"No. If an intoxicated person is locked up by the police and develops delirium he is sent here, and we do what we can for him by the old methods."

"You offer no definite medical help along special lines?"

"No; we have none to offer," he answered, hopelessly.

He showed me two cases in the general ward. One man in a straightjacket was suffering from delirium tremens, his face terribly suffused. He was in a pitiable state, and nothing was done for him.

"May I see his chart?" I requested.

After I had examined it, it became immedi-

ately apparent that the patient's condition was due to lack of his usual drug. It was his third day in the ward.

"Nothing but sleep will save him," I said, and suggested medication. This was administered.

In three or four minutes the patient was relaxed and taken out of the straightjacket. I made certain suggestions regarding general stimulation for the bowels and the kidneys and also suggested some modification in the diet. The next day I found the patient improved after twelve or fifteen hours of sleep, and wholly free from delirium. His case had now become simply a matter of recuperation.

Another case had lived through several days of delirium tremens which had been followed by a "wet brain"; the visiting physician considered this patient a fit subject for the psychopathic ward.

I asked the patient questions about himself. He was sure that he had been out the night before, and pointed out one of the internes as his companion during the hours of dissipation. His case was regarded at the hospital as almost certain to end in an asylum. I suggested treatment, and within two days the man's mind was entirely cleared up.

These instances of successful and prompt relief occasioned considerable surprize among the hospital physicians, who frankly admitted that they knew no method except to keep the patients under restraint, and, if necessary, feed them according to existing rules, keep their bowels open and their bladders free, and hope for the best.

And this was an institution which is supposed to represent the best medical learning in the United Kingdom. I found similar conditions in the great hospitals of London, Paris, and Berlin; so the Scotch institution is no exception to the general European rule. Everywhere I was frankly informed that the medical staff knew of nothing to be done in alcoholic cases beyond deprivation and penalization.

Nor have we been more scientifically progressive in the United States. We are following virtually the same unenlightened methods. How important our shortcoming is may be obvious when it is remembered that alcoholic patients comprise one-third of all the cases admitted to Bellevue Hospital in New York.

The alcoholic differs notably from the person addicted to drugs. A drug-taker, deprived of his poison, will experience in the early

stages only acute discomfort and a natural longing for the drug of which he has been deprived. His unfavorable symptoms can always be relieved by the administration of the drug.

The chronic alcoholic, however, deprived of his stimulant often drifts into a delirium which can not be relieved even by the administration of his accustomed tippie. No more terrible spectacle can be imagined than that of an acute case of delirium tremens; no patient needs more careful watching, in order that unfavorable developments may be avoided. And once delirium sets in, no type of case is medically so difficult to handle.

The man who for long periods has been saturated with alcohol, and who is suddenly deprived of it is, I think, more to be pitied than almost any one I know. Yet relatives, friends and physicians frequently enforce complete abstinence, thinking that by so doing they are rendering the patient a kindly service.

The relation of tobacco, especially in the form of cigarets, and alcohol, or even opium, is a very close one. For years I have been dealing with alcoholism and morphinism, have gone into their every phase and aspect, have

kept careful and minute records of almost ten thousand cases. Yet I have never seen a case, except occasionally in a woman, which did not have a history of excessive tobacco use. It is significant, too, that a boy always starts smoking before he starts drinking. If he is disposed to drink, that disposition will be increased by smoking, because the action of tobacco makes it normal for him to feel the need of stimulation. He is likely to go to alcohol to soothe the muscular unrest, to blunt the irritation he has received from tobacco.

From alcohol he goes to morphine for the same reason. The nervous condition due to excessive drinking is allayed by morphine, just as the nervous condition due to excessive smoking is allayed by alcohol. Morphine is a legitimate consequence of alcohol, and alcohol is the legitimate consequence of tobacco.

The man predisposed to alcohol by the inheritance of a nervous temperament will, if he uses tobacco at all, almost invariably use it to excess. And this excess creates a restlessness for which alcohol is the natural antidote. The experience of most men is that if they take a drink when they feel that they have smoked too much, they can at once begin smoking all over again. For that reason the

two go together, and the neurotic type of man too often combines the two.

So, in dealing with alcoholism, the results are not so good if the patient does not give up tobacco. Only a man of the strongest character will persist in abstaining from alcohol unless he also abstains from tobacco, even after he has undergone the most intelligent medical treatment, for the physiological action of tobacco is to create muscular (motor) unrest.

Most habitual smokers consume every day more than enough tobacco to carry them beyond the point where its stimulating effect ends and its narcotic effect begins. Where this habitually occurs, the definitely toxic effect is notable. This results in a demand for that stimulation which the tobacco itself once furnished but now does not. Here is an evil effect of the combination of tobacco and alcohol that is rarely understood, and almost never admitted.

So get rid of the tobacco habit if you would get rid of the alcohol habit, for they fit together and complement one another like the tactile fingers and thumb of a pickpocket.

In this connection, also, I wish to emphasize that there is nothing which can be "dropt

into the coffee," administered in the food, or introduced into the system in any secret way that is of the slightest avail in the relief of alcoholic addiction. There is absolutely no treatment that can be given "without the patient's knowledge" that is of the slightest value, for cooperation is required, the physical system must be tuned up, and the alcohol sickness corrected, so that later the victim may refrain from drink or have the moral courage to flee temptation.

This is the indispensable thing—cooperation; without it nothing can be done, for nothing nor nobody can relieve an alcoholic of his craving and his habit if he does not want to be relieved. I can not too strongly, nor too repeatedly, emphasize this fact.

The possibilities of medical help for the alcoholic have been exhausted when the patient has been freed from the effect of his stimulant and put in a physical condition wherein he feels no need for alcohol.

But, after all is said and done, whether the treatment extends over six days, six weeks or six months, nothing except a man's own mind and soul can ever relieve him of the danger of a relapse into alcoholism.

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It is true that a definite medical treatment is the intelligent beginning of help. But no medical treatment, no matter how successful, can compass that victory which a man must himself ultimately will to win.

X

THE SHEEP AND THE GOATS

It is a hard thing to say, and a more disappointing thing to realize, but there are men—scores of thousands of them—whom it is the veriest waste of time and effort to try to retrieve from addiction.

These men are hopeless—abjectly hopeless. Their moral fiber is a thing of shreds and patches: in their twisted souls they do not want to be helped. And no human agency can help a man who does not want to be helped.

But how are we to tell when a man is or is not worthy? How are we to distinguish between the sheep and the goats?

The most simple expedient is to find out what the man himself is willing to do in return for help.

Now, no man of sufficient mental fiber to make helping him of any actual value is willing to accept charity. Even if he finds himself at the moment unable to repay the debt involved, he will be anxious to make it a

future obligation. My eighteen years of experience have proved to me that this sense of personal obligation is perhaps the most important element in the matter.

Even when it becomes necessary for a relative, employer, or friend to assist a patient by the payment of his bills, it should be regarded a part of the treatment to consider this a loan which must be repaid, not a gift.

It follows, sadly enough, that the most hopeless alcoholic is the rich young man to whom financial obligations incurred for treatment mean nothing whatsoever, and to whom responsible employment is unknown. Indeed, it seems well-nigh impossible to reform the vagrant rich. Also, the man who thinks that giving up his alcohol is essentially a privation, even tho he may admit the definite necessity for this privation, is not likely to reform permanently.

The vagrant poor are equally hopeless, for most of them are apathetic, chronically discouraged, undernourished, and permanently in that condition of mental, moral and physical instability that has melted whatever starch they may ever have had in their spiritual backbones and left them spineless, drifting jelly-fishes. Unless, first, their economic and

environmental conditions can be changed, these people promise absolutely negative results.

So lack of occupation, either from being too rich or too poor, is one of the greatest of all hardships in the successful treatment of addiction.

But be he rich or poor, there is hope for the man who declares that drinking is a bad business and that he wishes to be helped to stop it. This man has pride and stamina, and I can not say with too much emphasis that self-respecting pride is the main hope of the alcoholic.

It must not be overlooked, however, that frequently it is the pride of the curable alcoholic which makes him difficult to reach. To try to help such a man when it is too late is a pitifully usual experience, for not until it is too late does his pride allow him to apply for help.

The man who says "I will not drink to-day," and finds himself compelled to, who promises himself, but can not keep his promise, is the man who most deserves help and is most likely to yield some sort of good return on an investment made in him. Indeed, it is the rare alcoholic, curable or incurable, who

of his own initiative submits himself to treatment.

Friends must assist, but while the importance of such friendly service can not be overestimated, it must be of the right kind, or it will be worse than useless. Friends of alcoholics too often either sentimentalize or bully, when they should go about the task of helping, or else they allow too little time for the accomplishment of the reform.

Again, thousands of decent men annually yield to alcohol, and are wrecked by it. The worthy and potentially valuable citizen who through overwork, worry, sickness, sorrow, or even through a mistaken conception of social amenities or duties, drifts into excessive alcoholism, is a victim of our imperfect social system. He quite generally repays remedial effort.

Furthermore, such a man is almost invariably savable if he himself applies for salvation, assists with his own will in its application to his case, and pays his own money for the treatment.

It seems impossible, however, to arouse any enthusiasm or sympathy for the human derelict whose natural weakness is inevitably such that one taste of alcohol leads to a gallon, and

final wreck and ruin. The human cipher, plus alcohol or minus alcohol, remains a cipher.

For if he has achieved nothing up to the point where he has become addicted to excessive alcoholism, he will rarely repay the trouble involved in an effort to preserve him from his folly, altho, of course, his preservation from it might be of general social service as a means of saving the public money that otherwise might be expended in the reparation of the results of his destructive tendencies, besides the public expense involved in police, court and prison charges that result from his self-indulgence.

Nor is the colonization of the addict more effective, except for the hopeless cases. It means segregation. A man once said to me: "I want to be helped, but not at the cost of compulsory association with others seeking help. I know that to be thrown into unavoidable contact with those worse than myself would hopelessly degrade me. I should not be willing to risk that, no matter how much good the treatment might do me."

Colonization of the occasional alcoholic stamps him only a little less deeply than his stripes are sure to stamp the criminal who is sent to prison, and its effects upon him and

his family are hardly less injurious than would be the effects of punitive incarceration.

Also, he is likely to be barred from employment after his discharge from the colony, and thus find it impossible to reestablish himself.

Moreover, during the period of sequestration, it is difficult to devise a plan for the care of the wives and children of those sent into seclusion. At a time when nothing in the way of betterment can be expected of him until he regains confidence in himself, such treatment only serves to cripple a man's spirit.

Colonization of the hopeless is advisable only because such men, before they have descended to that stage, have cost their friends and society all that it is advisable to spend on them. If the man who is worth while is to be saved, it must be without the application of the brand.

And in this connection it may be well to note that temporary colonization in sanatoria is open to similar objections. Picture to yourself a group of from half a dozen to fifty drug or alcohol patients, eating together, walking together, sitting on the veranda together day in and day out. In this group may be represented many different temperaments and many

different stations of life, from the gambler to the clergyman.

Thus, in a matter where individual and isolated treatment is imperative, sanitarium or colonization deal with patients collectively. And whatever moral restraint the habit has left in a man tends to completely relax when he hears constant bragging of trickery and evasion and has learned to envy the cleverness and resource so exhibited. The self-respect and pride which must be the main factors in his restoration may become fatally weakened. Therefore colonization should be restricted to the hopeless cases, and to them only because it is unhappily necessary.

Also drug-users, as well as alcoholics, who are sent, officially or otherwise, to institutions of this character, are too often prone to become "sanitarium convicts." Their cases are hopeless, and but little less pitiable than that of a "lifer" in prison.

As to the various classes of drinkers, and the comparative possibilities of treating them successfully, I must in all frankness say that it has been my experience that the occasional drinker, the steady drinker, the social drinker, or the still drinker, are all practically in one class, so far as reclamation is concerned. It

is the human equation, not the character of the addiction, that decides the issue.

Most alcoholic patients need physical care and attention after their alcohol is eliminated. We find that back of the taking of alcohol there may be a run-down, depleted nervous system, perhaps with blood disease of some kind, or with some other physical troubles. In every case there should be a most careful accounting of the whole physical man as well as of the mental man.

A man with an alcoholic history who is not yet physically able to work without feeling extreme fatigue should be carefully safeguarded. Unless he has genuinely made up his mind never to touch stimulants again, there is a possibility of relapse, even tho there would be no direct physical craving for alcoholic stimulants. Discouragement, or weariness, may "knock him out." Such patients should, if possible, avoid doing anything that would set up a nervous condition, or that would, for any reason, make them feel a need of alcoholic stimulation.

Again, every able-bodied man who can work and won't work should be made to work; and State and municipal authorities the country over should provide ways and means by which

such men should be forced to work, and to work at something worth while. If these authorities could bring influence to bear on some of the heads of leading industrial concerns, and have them outline ways and means by which those men who now constitute human waste could be employed, it would mean the clearing up of the worst phase of this alcoholic situation in a very short time.

Not only should these men be employed in work which would mean the making or manufacturing of something that was needed and was well worth while,—work which would also be reasonably well recompensed,—but also there should be some way whereby those who have not been especially trained industrially could be taught some profitable trade.

The only way to begin to make the authorities realize fully their responsibility in this matter is, so it seems to me, to pass such laws as shall for the first time require them to deal with this subject intelligently; to make the large municipalities establish each an alcoholic clearing-house; to make each State set aside one institution for the convenience of those who would not be eligible for treatment in the municipal institutions; to make an intelligent classification of all alcoholics, and to

outline to the different magistrates and police-courts the proper course to pursue in dealing with alcoholics.

The courts and the police should have definite instructions as to what disposition to make of this type of unfortunate. The wards of hospitals receiving such patients should, in every instance, avoid unnecessary colonization. There should be some means of identification of such cases in the public institutions, and there should be a final disposition, one way or another, of the confirmed alcoholic.

At present the authorities, with too few exceptions to mention, have no concern whatever for the alcoholic patient. They don't know what on earth to do with him or for him—and they do it!

And, finally, there is not going to be much satisfactory history written in dealing with the chronic alcoholic. Any progress toward real results on this subject is going to come from the younger generation of human beings who are innocent of alcoholic saturation.

I would like to see, as a part of the curriculum of every public and private school in this country, enforced study of what drugs, alcohol and tobacco really mean in their ef-

fects on the human system. I would not show any horrible pictures; I would just tell the plain story as it really is. The plain story is bad enough. And not until such education has been given will there be any real progress made in removing this curse.

XI

POISONING NERVES WITH NICOTINE

IN the Fifth Edition of the National Dispensatory, on page 1576, there is a bald statement of a fact. This fact is that "Nicotine stands next to prussic acid in the rapidity and energy of its poisonous action."

Prussic acid is probably the most deadly of all known poisons. A drop placed on the tongue kills like a stroke of lightning.

Here are facts which, if realized by the good men and women who, during the late war, worked so faithfully to "get smokes to the boys," might give them pause, for scores of thousands of these fine young chaps have been, and are being, killed by the kindness of these well-meant efforts.

Many of them have been so thoroughly nicotine-soaked that, medically speaking, they may be properly classed as invisibly wounded men, along with the shell-shock cases and other forms of neurosis.

Their livers, kidneys and other vital organs,

the activities of which keep the blood free from poisons, have been permanently damaged by continuous overwork against narcotic intoxication.

The elastic tissues of their blood-vessels, because of the increased tension placed upon them by the poisons of tobacco, have lost elasticity. Their hearts have become degenerated by the abnormal pressure of their diseased blood-vessels. They have sown the seeds of Bright's Disease, apoplexy, and "heart failure," seeds which will inevitably bear fruit in their early dissolution.

Now, tobacco and the potato are blood brothers in the family of plants. But tobacco is a beetle-browed criminal—a black sheep in an honest family that causes the mild-eyed potato and her other starchy relatives to hang their heads in shame over the stigma in this classification.

The delightful *dolce far niente* of tobacco, so loved of those who welcome the solace of the "drug," is merely a stupor, the easeful sedation of a poison harmful to our physical welfare, depressing to our nervous system and destructive to our moral tone, particularly in the immature. Nicotine is a drug

the effects of which can not be guaranteed under the pure man law.

No matter what may be said by enthusiasts and apologists, there is not, so far as any scientific investigation can determine, the slightest reason why, from a standpoint of health or efficiency, any one should ever use tobacco.

The stimulating effects on the brain are evanescent and transient. The real effects are uniformly narcotic and deadening.

Practically all medical men agree that the excessive use of tobacco is dangerous. First, the smoke itself—by reason of the ammonia, carbon and carbonic-acid gas which it contains—is irritating to the respiratory mucous membrane, setting up a chronic catarrh or some other sub-acute inflammatory process; next, the fine particles of carbon settle in the throat or in the lung-cells, causing irritation and “shortness of breath”; then the ammonia “bites the tongue,” dries the throat, and also has a deleterious effect upon the blood. The carbonic-acid gas in the tobacco-smoke produces dizziness, headache, and lassitude—permanently subsiding only with the removal of the cause.

Also, nicotine, which is absorbed from the

end of the cigar or from the oil and water in the stem of the pipe, is a powerful narcotic poison. One drop, placed on the tongue of a dog (so we are told) will kill him "deader than a door-nail." In fact, if the nicotine contained in a single cigar were dissolved out and injected hypodermically into a human being who had not established tolerance for the drug, it inevitably would prove fatal.

The percentage of nicotine varies with the kind of tobacco and with the district in which it is grown.

Our domestic "cabbage-leaf" brand contains from .94 to 5 per cent. of nicotine. This is on the authority of the U. S. Department of Agriculture. The French Department of Agriculture states that it finds from .22 to 10.5 gr. in tobacco examined by their experts.

In addition to the nicotine, the tobacco contains small quantities of substances similar in composition, such as nicotellin, nicotine, and a substance related to camphor called nicotianin. It is to this drug, as well as to a volatile oil developed during the process of preparation, that the characteristic flavor of tobacco is largely due.

Notwithstanding the opinions generally held concerning the "strength" of Havana cigars, in reality they contain far less nicotine than do the cheaper brands.

This may be a source of gratification to the average man, who has all the satisfaction of knowing that, even if he hasn't as much money to spend for his cigars, nevertheless he can get more actual poison out of his expenditure, dollar for dollar, than does the millionaire clubman.

It may here be noted that nicotine itself is not found in smoke, as it is changed by combustion into pyridine, collidine and preolin, as well as other bases. Still these substances retain, in a degree, practically all the depressive qualities of their volatile ancestor. Also, the heavy odor of dioxide or carbon is very unhealthful and obnoxious, even to smokers themselves.

There is also an appreciable quantity of carbolic acid, marsh gas, cyanogen and hydrocyanic acid in the smoke of tobacco.

There certainly isn't anything very appetizing or inviting in this formidable list of poisons that should stimulate glad halleluiahs and hosannas from the multitude of Lady Nicotine's devotees.

But where ignorance is bliss, 'tis folly to be informed. And the sum total of ignorance on the subject of tobacco, its ingredients, and its effects, is nothing short of Gibraltairic.

Some there are who contend that there can be no danger from nicotine and the by-products of tobacco in the smoke, for these are destroyed in the process of combustion. This tribe of advocates blames any deleterious consequences that might result from smoking upon the development of decomposition products from the burning tobacco, particularly pyridin.

But pyridin is also produced when cabbage or corn leaves are burned. And there is no mad desire apparent on the part of the populace to indulge in the smoking of cabbage leaves or corn husks.

However, it is admitted by competent authorities that there is a certain proportion (estimated at about 30 per cent. by the U. S. Department of Agriculture) of nicotine in tobacco smoke. And it is quite likely that this and the poisonous effects it produces on the organism are the real reasons why smoking is so wonderfully popular.

The inhalation of tobacco smoke and the absorption of toxic by-products into the cir-

culatation through the two thousand square feet of lung air-cell surface also arrests oxidation. Like alcohol, opium, and other narcotic drugs, tobacco retards the burning up of dead tissue. It prevents cell metamorphosis, and consequently impairs nutrition; for, in perfect metabolism, it is as essential to get rid of dead material as it is to build living structures. And, further, we can not build living structure until the débris of the worn-out cells has been removed. This explains why the use of tobacco in growing boys is most injurious; it stunts them, mentally and physically, and lays the foundation for the acquirement later of pernicious and reprehensible habits.

Next, the excessive use of tobacco unduly stimulates the nervous system and the action of the heart. When the products of cell decay are stored up in the tissues, the heart automatically pumps faster, in the effort to oxidize an excessive amount of fatigue-poison generated by violent exercise. The heart is endeavoring to bring to the cells sufficient oxygen to burn up and convert their metabolic poisons; that is, the poison developed in the repair and destruction of cell tissue. Vital energy is dissipated, for which there is

no compensatory return. If this is long continued the heart weakens, loses the regularity of its rhythm, or even "skips" an occasional beat. In addition, it contracts more rapidly, and with unnecessary force, and then we have the serious state known as "smoker's heart." If the cause is not removed, the smoker will keep on "skipping," getting progressively worse, as the condition develops from functional into organic, and eventually he will skip into another land—where there is nothing else to do but smoke.

Sometimes, even tho the patient reforms and gives up entirely the use of tobacco, the rapid heart action and irregularity induced by his former excessive smoking will be permanent. A friend of mine has one of these reformed-smoker's hearts of twelve years' standing, and bids fair to keep it for forty-eight more—if he lasts that long.

Excessive use of tobacco, to many individuals, impairs the memory. It creates a sluggishness and apathy that reflect themselves in mental incorrelation—in an inhibition of the association impulses. It is asserted that in a period of more than fifty years no inveterate user of tobacco has ever carried off the first prize at Harvard College;

and this is corroborated by the experiences of other schools where records have been accurately kept.

Here are a few of these records of unquestioned authenticity:

Dr. Edwin C. Clarke studied two hundred students of Clark College and found the scholarship distinctly lower among the smokers than among the non-smokers.

Dr. George L. Maylan, of Columbia University, found that the ratio of failures of smokers as compared to those of non-smokers was ten to four.

In the study of eight hundred high-school boys, Dr. P. E. Henry found a school record difference ranging from 17 per cent. to 28 per cent. in favor of the non-smokers.

Those who believe that they think more clearly while under the influence of tobacco probably actually do think better, but this is because of the fact that the system has accustomed itself to tobacco—that a certain amount of the drug is necessary to restore what to them is a normal condition. Just as the alcohol-saturated cells of an addict cry out for sufficient alcohol to permit them to function normally to their acquired pathological habit, so the nerves and cells of a

constant tobacco user demand a certain amount of nicotine, in order to relieve abnormal nerve and body tension. It is because the tobacco addict is not compelled to think about how badly he wants his smoke, that he thinks better when he has it.

All college men—and even most school-boys—know that, from the moment they begin training until they “break” again, the use of tobacco is absolutely interdicted. Experience has demonstrated that the “wind,” digestion and heart are powerfully and unfavorably influenced by its use. No athlete who is called upon to expend his last atom of strength, skill or endurance in friendly contest can afford the almost certain decrease in strength and skill or weakening of heart and “wind” which trainers know will inevitably follow dalliance with nicotine.

Dr. Frederick J. Pack studied two hundred and ten men who contested for position on their college athletic team. Ninety-three were smokers; one hundred and seventeen were non-smokers. The non-smokers surpassed the smokers, with a difference of 32 per cent.

Dr. Pack also made inquiry as to this athletic situation in fourteen other universities, and learned that the non-smokers won, with

12 per cent. in their favor. He also found against the smokers, low scholarship, small lung capacity, and a uniformly low degree of success in "making the team."

Prof. Jay Seaver, of Yale University, likewise reports a decidedly impaired lung capacity on the part of the habitual smoker.

Tobacco undermines will-power and predisposes to alcoholic excesses. It is maintained, by specialists in the treatment of drug and alcohol addiction, that the dipsomaniac whose periodic debauches seem to occur without rhyme or reason are victims of chronic tobacco poisoning, and that this poisoning is really the fundamental cause of their periodic inebriety. This is particularly true of cigarette-smokers and pipe- or cigar-smokers who "inhale" the tobacco smoke.

The explanation is that those patients smoke themselves beyond the sedative stage and into a state of nervousness, then increase their smoking in a vain attempt to gain sedation. Finally they become so nervous through tobacco excesses that they require a narcotic to quiet them, when they turn to our old friend, John Barleycorn. Their jaded and harassed systems are exceedingly intolerant to alcohol, for, after the first drink, they are

mentally "over the way." They then decide that they might as well be drunk as be the way they are, so they go to the full spree.

With few exceptions, the vicious cycle can be broken only by those men quitting tobacco. Unless this is done, they will continue to use—or rather abuse—both alcohol and tobacco. They can not stop drinking—and this is worth noting—they can not stop drinking, unless they first give up smoking.

Next—and this is interesting to the middle-aged who are developing a little blood tension, or whose arteries are losing elasticity—it has been shown that tobacco aggravates, if it does not cause, arteriosclerosis. This is owing to the stimulating effect upon the adrenal glands—those little bodies that sit like caps on the tops of the kidneys, and whose function is so obscure and complex. These glands, when overstimulated, secrete an abnormal amount of adrenaline into the circulation, which, on its part, in some inscrutable way has the effect of increasing blood tension and hardening the arteries.

Also every eye-specialist has seen cases of toxic amblyopia (weakness of vision produced by poisoning), paralysis of the optic nerve, or even optic nerve atrophy (a destruction

of the nerve-cells and their replacement by dense connective-tissue growth), which originated in the excessive use of tobacco. Unless the habit be stopt, the patient frequently goes to complete blindness; and with this hardening, even tho smoking be stopt, he goes anyhow.

Frequently there is an irritable effect upon the mucous membranes of the eyes resulting directly from the tobacco smoke, correctible in no other way than by mitigating or entirely relinquishing the habit which produces the trouble.

This catarrhal condition frequently involves also the nose and throat, and even, in rare cases, the ear.

It is not at all unusual for the mucous membrane lining of the stomach to be affected by the poisons of tobacco. Acid dyspepsia is commonly met with among smokers.

Also, almost every honest smoker will confess to the insomnia-producing effects of tobacco. This is so universally recognized that sophisticated smokers are always careful to regulate the amount of smoking they may do late at night.

If they step over the line and indulge in an extra cigar or two during the evening, they

pay the penalty of their dereliction by lying awake half the night, awaiting the quieting of their pounding pulses before fugitive sleep visits their tired eyes.

Lady Nicotine's favorite method of winning young boys is to break down their will power. A typical boy "fiend" will lie, steal, and indulge in the most depraved and unnatural acts. In fact, the first step in the making of a "bad boy" is to teach a good boy to smoke, especially cigarets. From this humble but effective beginning, he may be depended upon to gravitate to liquor, "gangism," and most of the crimes that may ultimately land him in a reform-school or the penitentiary.

Cigaret smoking is infinitely more pernicious than drinking, for the drink habit in boys is readily curable, while the cigaret habit is but seldom eradicated. In fact, this habit is far more injurious than is any other form of tobacco addiction, unless it be chewing; for the by-products produced by combustion of cigarets are even more deadly than are the nicotine by-products.

Among these cigaret by-products (in addition to those of the nicotine group) we have furfural, one of the aldehydes (an alcohol deprived of its hydrogen) said to be fifty

times as poisonous as ordinary alcohol. Furfurol is the ingredient in fusel oil which makes poor whisky even poorer than it ordinarily might be. It is claimed that there is, in one cigaret, as much furfurol as there is in two glasses of ordinary whisky.

This is the drug which is chiefly to blame for tremors, twitchings, and transient irritations, and which explains very consistently the characteristic handwriting of the cigaret fiend. In its cumulative and long-continued effects, it causes both true and hystero-epilepsy, also muscular paralysis.

Another member of the malodorous family of aldehydes found in cigarets is acrolein (or acrylaldehyde, for short), an intensely stimulating drug with a decidedly depressing after-effect. When furfurol and acrolein are inhaled (the smoke percolating through the lung-cells), they cause a general irritation followed by narcosis, and by their continual use the nervous system is shattered.

Hudson Maxim, in a series of tests, found that, owing to the loose construction of the cigaret the poison known as carbonic oxide is produced in its combustion. Maxim believes that this poison is responsible for the demoralization of the cigaret fiend. "The cigaret can

burn only poisonously," he declares. And as a poison producer, it is in a class by itself.

Many varieties of cigarets are "doped" expressly to allay nausea, which is the normal effect of tobacco smoking upon the uninured human system, and at the same time quiet that motor unrest which is the first symptom to follow the introduction of nicotine into the human system. The narcotic effect of the adulterant drugs is, therefore, to ease the smoker's first pang, and to make him more quickly the victim of the tobacco habit.

While authorities differ as to the probability of cancer developing as a result of smoking, there is absolutely no doubt that lip-cancer (epithelioma) and cancer of the tongue and the throat have been traced to the irritation of the pipestem or the hot acrid smoke.

Umberto Sorrentino, the Italian concert-tenor, has pointed out that tobacco is a strangling clutch on the throats of most singers and speakers, depositing, as it does, irritating and "drying" particles of carbon in the resonance-chambers of the nose and oral cavity and inflaming the delicate vocal chords and larynx with its acidity.

We can also say, with comparative certainty, that functional derangements of the digestive,

nervous and circulatory systems (manifested in headache, lack of appetite, dyspepsia, nausea, lassitude, lack of concentrative power, confusion of mind, indisposition to muscular effort, incoordination and insomnia) frequently follow our treading the primrose paths hand in hand with Lady Nicotine.

To the average man, the habit of snuffing seems most peculiar—one, apparently, without reason. There is, however, an appreciable amount of stimulus from the local action of tobacco upon the nasal mucous membrane. Snuffing is really a sort of homeopathic chewing.

Except among the more ignorant of Southerners, the practise of dipping a small brush or roughened stick of wood into tobacco and rubbing it on the gums or mucous membrane of the mouth is now almost obsolete. This manner of using tobacco produces a powerful excitation upon the nervous system. Also partaking blithesomely of an infusion or decoction of tobacco is a custom that now happily is honored more in the breach than in the observance.

With the cost of the tobacco habit we are not here concerned. If it helps, it is—like anything else that is helpful—worth all it

costs. Figuring that if one saved his cigar-money for sixty years, he would have enough laid aside to put a new tin roof on the barn, or to repair the automobile, doesn't "get anywhere," or convince any one.

We do accomplish something definite, however, if we can prove—as did Ceisne, a French physician—that among thirty-eight boys between nine and fifteen years of age, in twenty-two there were marked circulatory disturbances and heart palpitation; in thirteen intermittent pulse; in six, decided anemia; several suffered from nosebleed, insomnia and nightmares; four had ulcerated mouths; and one had consumption; all as a result of tobacco addiction.

Further, if we show that eleven of those thirty-eight boys were induced to quit the use of tobacco and within six months were completely restored to health, we accomplish still more.

Accurate statistics are not obtainable as to the influence of tobacco in causing insanity, altho many of the world's greatest authorities on mental diseases are convinced that it is a predisposing factor in a large percentage of the victims. There is no doubt that in the presence of an unstable nervous organism, nicotine is extremely detrimental.

Dr. Bancroft, of the New Hampshire Asylum at Concord, writes in no uncertain terms on this matter. He says: "I have known several cases of insanity, most unquestionably produced by the use of tobacco, *without other complicating causes.*"

Dr. L. Pierce Clark, speaking on the effects of tobacco on the mind, says: "Fully half the patients who come to our asylum for treatment are victims of tobacco."

The Superintendent of the New York Insane Asylum holds that "tobacco has done more to precipitate minds into the vortex of insanity than spirituous liquors."

Life-insurance companies also have neglected a very fertile field for investigation in not obtaining more definite actuary and mortuary statistics relating to tobacco users by listing smokers and non-smokers separately, as many now do with drinkers. One New York company (The Postal Life) is taking this matter up, and in a recent bulletin it said: "We believe the attitude of the medical profession is rapidly changing toward tobacco, as it has changed toward alcohol." Which would indicate that this company has reason to regard tobacco as definitely injurious to the human organism.

Dr. D. H. Robbins, for forty years an insurance examiner, in speaking of the pernicious effect of cigaret smoking on the body, said that one-half of the tobacco users he examined were perceptibly injured by it, and at least one-eighth had irregular or intermittent valvular action, commonly known as "smoker's heart." He said:

"This weakened condition of the human pump allows slight regurgitation of blood through improperly closed valves, preventing complete oxidation in the lungs, thereby retaining the poisonous gases in the system, and eventually resulting in dropsy or some other systematic breakdown."

We are in the habit of looking to the insurance companies for accurately tabulated information in vital statistics: we might recommend this subject to their further attention.

It is a great pity that experiments of an exhaustive and convincing nature have not yet been attempted with tobacco, to determine, by instruments of prevision, just what degree of deterioration, if any, follows its use. It is to be hoped that scientists, such as Professor Chittenden and Doctor Mendel, and others interested in physiological or psychological research work, will undertake experiments like

those made by Professor Kraepelin with alcohol.

These investigators might set aside a squad of, say, ten men who can stop smoking for a period, and at the start ascertain their maximum capacity for work, by means of the ergograph, "writing-balance," memory, adding and subtracting tests, and whatever else may appeal as interesting and conclusive. Then these same men should smoke or chew a definite amount of tobacco each day, and be subjected to the identical experimental tests, tabulating the results and comparing them with the preceding tests.

It would be interesting to try out the squad also on the hurdles, the track, the blowing-, punching- and striking-machines, "chinning the bar," dumb-bells, weight lifting, standing on one foot, or whatever else might serve to demonstrate muscular vigor and coordinate power: and then compare the before- and the after-results of this work. These experiments, if the results of the tests bore out clinical findings, would give us a mass of irrefutable data extremely valuable and helpful, and which, incidentally, would make very interesting reading.

But while we do not yet know the exact

amount of physical and mental deterioration produced by the use of tobacco, we do know what some of the largest employers of labor think of the matter.

The Cadillac Motor Company, the Larkin Company, the Buffalo Adding Machine Company, Marshall Field & Company, the Colorado Fuel & Iron Company, the Sharpless Cream Separator Company, John Wanamaker & Company, and dozens of other employers of labor, state emphatically that either they do not employ smokers at all or else they give the preference in all instances to non-smokers.

The classic controversy between Henry Ford and Thomas A. Edison on the one hand and a certain prominent and prosperous tobacco company on the other hand are sufficiently recent to be remembered by anybody who really cares to remember the interesting battle. It hardly is necessary to say that the tobacco company aforesaid came out of the fracas a very poor second best.

Those who may care to refresh their memories concerning this instructive *mêlée* might write to Mr. Ford for a copy of his illuminating pamphlet, "The Case Against the Little White-Slaver."

It may cure them of the bad habit of plying

friends with cigarettes. Indeed, it may even cure some of them of the desire to continue to poison themselves by the same means.

No doubt there is many a true word spoken in jest. Perhaps one of the very truest of all these is to characterize cigarettes as "coffin-nails." But that is exactly what they are.

So perhaps the next great reform will be to effect legislation which will place all the States of the United States in the same class as those three enlightened Western States that now forbid the sale or smoking of cigarettes anywhere within their borders.

In the United Kingdom, the per capita consumption of tobacco is about two pounds per year, and has remained at about this figure for many years. In America the per capita consumption is about eight pounds, an increase of more than 50 per cent. in twenty years.

If the present rate of increase were to continue for twenty years longer, there would not be nearly enough doctors and sanitariums in the land to care for the victims of that fickle jade, Lady Nicotine, who holds the hope of promise to our eyes, only to break it over our heads and then leaves us to pick up the pieces.

But perhaps we shall have learned something within the next twenty years. 'Tis a consummation devoutly to be hoped for.

XII

LADY NICOTINE AND THE YOUNGER GENERATION

It's a pretty difficult job to teach an old dog new tricks. And the older the dog, and the newer the tricks, the more difficult the job.

This is why arguments addrest to the average man, concerning the folly, futility and fatuousness of the use of tobacco, are usually so ineffective—why they roll from his brain like a bombardment of peas from the hide of an armadillo.

So, if we ever hope to get the real facts of tobacco addiction “across,” if we ever hope to show that the rose-scented, sense-alluring tales fostered by the gentlemen who profit hugely from the sale of poisons are a pack of lies—cut out of the whole cloth—we have got to tell them to the still uncontaminated younger generation.

In our schools, in our text-books, in churches, in homes everywhere, a campaign of education should be launched that would establish definitely in the minds of yet-teachable youth the actual status of tobacco.

For one must provide strong reasons to

make a man, hardened in the art of smoking, give it up. He will not ordinarily do so, because it costs him something, and he expects to pay for his pleasures. When he has actually gone to pieces it is comparatively easy to convince him that he should give up what is hurting him; but the average man has not been excessive enough for this, and has never brought himself to the point of serious conscious injury.

Even a physician can not, with any certainty, tell the average moderate smoker whether tobacco is hurting him. Consequently, if one would make this man stop smoking, especially when he sees that leaving off has caused some people more apparent discomfort than was caused by all their smoking, one's only chance is to make him change his mental attitude.

I hope to assist in doing this by calling attention to the fact that tobacco not only prepares the way for physical diseases of all kinds, but also, as long investigation has shown, for alcoholism and for drug-taking.

But first let us consider a little further some of the less noxious, but equally deterring, characteristics of tobacco.

When first tobacco was introduced into

Europe the use of it was everywhere regarded as injurious. On this account, its general adoption was slow; it was only when people became inured to its injuriousness that the habit began to spread.

Yet even to this day we find that smokers, as well as non-smokers, are suspicious of any form of tobacco-taking to which they have not become accustomed. Smokers, who for the first time meet chewers or snuffers, or those who "dip" tobacco, as in the South, are affected unpleasantly. Smokers persist in finding chewers disgusting, and smokers of pipes and cigars frequently object to the odor of cigarets.

Nothing more strikingly illustrates how completely people may become addicted to a habit than the smoking and chewing of the traditional Southern gentleman of the old school, who would be horrified at any other exhibition of personal uncleanness.

Also, young men most fastidious about their apparel seem quite unaware that their clothing is saturated with the smell of tobacco, and the odor of a cigaret is probably as offensive to some who do not smoke as is any other smell under heaven.

Arguments in favor of tobacco for any

physical reason are baseless. It does not aid digestion, preserve the teeth, or disinfect; and it is not a remedy for anything. The good it does—and no habit can become general, of course, unless it does apparent good—can only be mental.

Let me admit at once that smoking confers mental satisfaction. It seems to give one companionship when one has none; something to do when one is bored; keeps one from feeling hungry when one is hungry; and blunts the edge of hardship and worry—as do most other narcotics. And in the same way—by blunting nerve impulse.

In return for this, however, tobacco stunts the growth—as is proven by observations made over a period of four years at Yale and Amherst, where it was shown that non-smokers increased more in weight, height, breast-girth and lung capacity than did smokers during the same period.

It is true, we are, as yet, ignorant of the effect of small, continued doses of the various tobacco poisons. All drugs comparatively harmless, such as lead, mercury and arsenic, produce a highly injurious effect when taken in repeated small doses. Just what effect the use of tobacco engenders we can not abso-

lutely know, but no physician doubts that smoking may be a factor in almost any disease from which his patient is suffering.

In the immature, even the moderate use of tobacco not only stunts the normal growth of the body and mind, but also causes various nervous disturbances, especially of the heart—disturbances which manifest in later life only when smoking has become excessive, which is to say that tho a boy's stomach grows tolerant of nicotine, to the extent of taking it without protest, the rest of the body keeps on protesting.

Tobacco, in bringing about a depreciation of the nerve-cells, brings, together with physical results like insomnia, lowered vitality and restlessness and their moral counterparts, irritability, lack of concentration, desire to avoid responsibility, and an inclination to travel the road of least resistance.

Cigaret-smoking is admittedly the most injurious of all the manifold ways of using tobacco, because the cigaret-smoker almost invariably inhales. He gets most harm merely because the bronchial mucous membrane absorbs the poison most rapidly.

Since it is a little difficult to inhale pipe or cigar smoke without choking, the products of

a pipe or cigar are usually absorbed only by the mouth, nose and throat; whereas the inhaled smoke of the cigaret is absorbed by the entire area of windpipe and bronchial tubes.

If you wish to see how much poison you inhale, try the old experiment of puffing cigaret smoke through a handkerchief, and then, having inhaled the same amount of smoke, blow it out again through another portion of the same handkerchief. The difference in the discoloration will be quite obvious. You will note that in the second case there is hardly any stain on the handkerchief: the stain is on your windpipe and bronchial tubes.

If a man inhales pipe or cigar smoke, he gets more injury simply because he gets stronger tobacco; but no one ever inhales the smoke of a pipe or cigar, unless he is a smoker of long standing, or unless he has begun with cigarets.

Besides allowing one to inhale a cigaret engenders more muscular unrest than any other kind of a smoke. Because of its shortness, cheapness and convenience, one lights a cigaret, throws it away, and then lights another. This spasmodic process, constantly repeated, increases the smoker's restlessness, while at the same time satisfying it with a

feeling that he is *doing something*. Yet, despite the fact that cigaret smoking is the worst form of tobacco addiction, virtually all boys who smoke start with cigarets.

The universality of the habit of smoking tobacco is one of its most insidious features. It fosters, or traditionally accompanies, social intercourse—which makes it all the harder to uproot.

What grounded opium so strongly in China was its social side. The Chinese lacked social occupation. It was not the custom of the country for a man to find this with his friends and family, tho no people are more socially inclined. So smoking opium became their chief social activity, and they gathered together in the one heated room of the house to gossip over their pipes.

We smoke tobacco as the Chinese smoke opium, "for company," and in company. And the smoker of cigarets gets his narcotic by precisely the same mechanical process through which the opium-smoker gets his.

The opium-smoker would find it too expensive a process to obtain the desired effect from opium by taking it into his stomach. But by burning a very much smaller quantity of the drug, and bringing it into contact with

the sensitive absorbent tissues of the throat and nose, he obtains the craved narcotic result.

I am convinced that the use of cigarets is responsible for the undoing of 75 per cent. of boys who go wrong. Boys who spend their time in smoking go where they will find other lads also engaged in the forbidden habit. They find congenial groups in poolrooms—where they learn to gamble—and in the back-rooms of saloons, where they learn to drink.

The step from the poolroom or the saloon to other gambling places, and to drinking places frequented by the unworthy of both sexes, is an easy one. Thus the boy whose first wrongdoing lay in the smoking of cigarets soon becomes the target for all manner of immoral influences.

And this brings us to the crux of our argument, for the more closely smoking, drinking and drugging are compared the more resemblances are apparent.

Opium, like tobacco and alcohol, ceases to stimulate the moment the effect of it is felt; it then becomes a narcotic. The history of the three poisons as resorts in emergencies is precisely the same. At the time when the average man feels that he needs his faculties

most, he will, if addicted to any of the three, deliberately seek stimulation from it.

He does not intend to go far enough to get the narcotic effect, since this would clearly defeat his own aim. He means to stop with the stimulant or the sedative effect. But this he is unable to do.

The inhaler of tobacco gets his effect in precisely the same way that the opium-smoker gets his—by rapid absorption through the tissues of the bronchial tubes. It may be news to most men to know that the man who smokes opium moderately suffers no more physical deterioration than the man who inhales tobacco immoderately.

The excessive smoker of cigarettes experiences the same mental and physical disturbance when deprived of cigarettes that the opium-smoker experiences when deprived of opium. The medical treatment necessary to bring about a physiological change in order to destroy the craving is the same. The effect of giving up the habit is the same—cessation of similar physical and mental and nervous disturbances, gain in bodily weight and energy, and a desire for physical exercise. A like comparison, item for item, may be made with alcohol, but it is the similarity between to-

bacco and opium I wish here particularly to emphasize.

Yet now that society has set the seal of its approval upon the use of tobacco by the women of the nation, the problem has become even more acute. For if the mothers of the land, as well as the fathers, are to poison their bodies and nerves with tobacco, the dangers of transmitting their instability and their sub-vitality are doubly acute—the blasting effects on the coming generation are doubly insured. Cigaret-smoking by women has put an additional handicap upon the hope for the future men and women of this country—already sadly handicapped by alcohol and drugs.

There is still another phase of the use of tobacco which I do not believe has yet been mentioned by writers on this subject. This is the pernicious effect of polluting with tobacco smoke the room in which women, children, or even infants, may happen to be living.

I am reminded of this by an incident which occurred while I was in China. Visiting one day an old Chinaman in whom I was greatly interested, I noticed two black-and-tan dogs, from whose eyes a profuse lachrymal secretion flowed freely. The little animals were extremely restless and irritable, running back and forth, and whining constantly.

I called the Chinaman's attention to the fact that the dogs acted like opium-addicts. The Chinaman grinned, and said, "They want their smoke."

Presently he prepared his opium, and reclined on a couch to smoke it. Immediately the dogs jumped up on his chest and sniffed avidly the thick smoke the Chinaman blew out of his nostrils. Within a few minutes the dogs quieted down, all their restlessness gone and their tears dried up.

I am convinced that in the same way women and young children become vicariously toxic from the tobacco smoke puffed by the men of the household into the air of their living rooms, and which they are forced to breathe.

There is not a particle of doubt in my mind but that many cases of obscure nervous disorders in women and children may have their origin in just such practises. Indeed, I know personally several women who become absolutely intoxicated, and who develop violent headaches as a result of being forced to breathe the rank odors of the smoke of a single pipe or cigaret, smoked by some heedless or selfish man, who thinks only of satisfying his own toxic craving by smoking in the room in which his innocent victims may be domiciled.

I have no desire to moralize upon the subject of tobacco. Yet a very wide experience in studying the results of the use of narcotics has convinced me that the total harm done by tobacco is even greater than that done by alcohol or drugs. Nothing else at the present time is contributing so surely to the degeneration of mankind, because, while its damage is less immediately acute than that caused by alcohol or habit-forming drugs, tobacco is a tremendous contributory factor to the use of both.

There is nothing to be said in its favor, save that it gives pleasure. And this argument has no more force in the case of tobacco than in the case of opium. Any man who uses tobacco poisons himself, and the very openness and permissibility of the vice serve to make the process of self-poisoning dangerous to the public as well.

To sum up, the tobacco habit is useless and harmful to the man who yields to it; it is malodorous and filthy; it is an infringement upon the rights and comforts of others.

Its relation to alcohol is direct and intimate. Its relation to immorality, crime, degeneracy, disease, and death are evident to every unbiased student.

Because of all these things, its regulation or prohibition may justly be claimed to constitute one of the most pressing and potent of all questions of this terribly poisoned era, and one which faces difficulties that are discouraging, if not absolutely insuperable.

XIII

HOW TO KILL THE SCOTCHED SNAKE

IT is unfortunate that Science has moved hell out of the universe, for only in the hottest corner of hell could adequate punishment be meted out to the worse-than-murderers who enslave the souls of men and women with drugs.

The Chinese, with praiseworthy intelligence, have set us a wonderfully inspiring example in providing retribution for these villains. They have made the illicit traffic in opium a capital crime—punishable by the sword of the executioner. If only we could follow their excellent example, and lop off the heads of a few hundred drug-peddling vultures in this country, we would go far to solve the problem that is rapidly becoming the most important medical and sociological question of our time.

However, even tho we can not lay the ax drastically to the roots of this pestilential tree, there are a number of its degenerating branches which could be hacked off, with a little intelligent effort. One of these is the

open sesame to morphine addiction by means of the hypodermic syringe.

For among all the thousands of patients who have come to me suffering from the effects of morphine or other alkaloids of opium, 95 per cent. were started in their slavery by the hypodermic—not infrequently at the hands of a well-intentioned physician.

In 1911 I made this statement before the Ways and Means Committee of the United States Congress, then occupied with attempting to regulate the sale of habit-forming drugs, and I personally secured the passage of the Act by the New York legislature in February, 1911, to restrict the sale of this instrument to buyers on a physician's prescription.

Before that time all drug stores and most department stores sold hypodermic syringes to any one who had the money. A boy of fifteen could buy a syringe as readily as he could buy a jack-knife. If a physician refused to give an injection, the patient could get an instrument anywhere, and use it on himself.

This bill has passed only a single legislature, but I am arranging to introduce a similar bill before all the others, and hope to have the State action confirmed by a Federal bill.

At present, even in Jersey City, or any-

where out of New York, any one may still buy the instrument. It is inconceivable that the syringe could have gone so long without being considered the chief factor in the promotion of a habit that now staggers the world, and that as yet only one State legislature should have seen fit to regulate its sale.

So restricting the sale of the syringe to physicians, or to buyers on a physician's prescription, is the first step toward placing the grave responsibility for the drug habit on the shoulders of those to whom this blame belongs.

Where an opiate must be given to relieve pain, it should be disguised in every possible way. This is simple enough, for disguise can be practised either by giving the drug by the mouth or by the use of suppositories.

So a basic way to deal with this question—to go at once and directly to the very root of the whole business—would be to restrict all use of opium to its crude form, and to its forms as laudanum and paregoric. This would cut off all pecuniary interest in the product, except for supplying it for legitimate medical needs in the crude form, and in its least harmful forms as laudanum and paregoric.

Crude opium contains all of the alkaloids, and may be taken either by the mouth or in

suppositories. If the traffic in and the sale of this drug was reduced to traffic and sale of crude opium, it would not inconvenience the medical profession in its legitimate use of the drug in anyway whatsoever, and it would immediately stop this terrifying illicit traffic that has grown out of the habit-forming drug situation.

In 1913 I was the author of a drastic law regulating the sale of habit-forming drugs in New York State, but because of severe pressure brought by physicians and druggists I was unable to put it through. In 1914, I tried again, and after a hard fight was able to have enacted a bill, which was introduced by Senator John J. Boylan, and which bears his name. For the first time there was then put upon the statute books of the State real restrictive drug legislation.

I predict that it is only a matter of time before public sentiment will cause prohibitive legislation to be enacted, and that the country will be largely freed from the illegal habit-forming drug traffic.

Of course, until there is some international understanding between the countries that produce these drugs and the countries that consume them, we shall have to submit to more

or less smuggling of these drugs into the country. Smuggled goods, however, rarely, if ever, find their way into channels for legitimate medical needs. For this reason it is only the underworld that would be affected by their use or abuse.

I have known of many cases of drug habit which have grown out of the administration of morphine for recurring troubles, such as renal colic. Such a disorder as this should never give rise to a drug habit. Those suffering from it are subject to such brief periods of pain that a physician could administer the necessary drug without their knowledge.

I have also had many cases of women, who, acquiring the habit through the administration of drugs at the time of their monthly periods, became habitual users, altho each recurrence of the period lasted only three or four days. When this problem is thoroughly understood, such evils will be impossible.

Moreover, I am strongly committed to the proposition that a consultation of physicians should be held before the administration of a narcotic. I have been told that to require such consultation before the administration of a habit-forming drug would put upon the patient a financial burden which he should not be asked to bear.

No fallacy could be more complete. There is in the United States to-day not one victim of the drug habit who, knowing as he does the intense suffering it entails, would not rather have given up ten years of his life and been forced to put a mortgage on his soul than to have had this habit fastened on him. The cost of a consultation is a small price to pay for the possible difference between life-long thralldom and free manhood or womanhood.

It may help us to a better understanding of the drug evil to know that drug-takers are by no means all alike, and that, taken as a whole, they fall into three broad, but well-defined, classes.

First, there are those who are dependent upon a drug because of some permanent underlying physical disability. They must have the drug to alleviate the pain growing out of this disability. Patients of this type must continue to take the drug as long as they live.

For these patients, after proper legal identification, means should be provided to enable them to get the needed drug in a regular, legal way, either through their own physician's prescription, or else by a prescription "franked" by Federal, State, or municipal authorities.

Secondly, there are the individuals who have

acquired the drug habit through illness, in which the drug has been prescribed regularly by a physician, or where they have gone into drug stores and bought openly and legally over the counters preparations and "remedies" containing certain minimum quantities of such drugs.

There may be no longer any real reason why these people should continue to use the drug. Yet they can not discontinue it without definite medical treatment, because the pain of deprivation and withdrawal makes such a course practically impossible. To cut these people off from their supply arbitrarily would be legislatively criminal; to make them resort to subterfuge to get their drug, little less so.

Thirdly, and last, we have the underworld type of addict, who has acquired the taking of the drug simply through dissipation. Drug-taking is a "social evil" in this class. It is a feature of drug-taking that one given to the habit is generally ready to set up the same habit in another; and this is particularly true of the underworld type of addict.

He, or she, loves company; and among certain classes the "social" aspect of the habit assumes the form of an orgy, such as "cocaine party."

This class, of course, knows nothing of laws whatsoever in getting its supply, and will always be able to get it—until the “drug evil” is cut off at its source by international agreement, operating through some form of worldwide standardized or cooperative international anti-habit-forming drug law.

For it has been demonstrated to be quite practicable for all the opium producing countries to make the drug traffic a government monopoly. It would be equally practicable for them to sell directly to those governments that use it for governmental distribution.

The only obstacle to an international understanding of this kind is that the producing countries know very well that government regulation would materially lessen the sale of the drug, and consequently would interfere with their profits.

In addition to all those who have acquired the drug habit through illness or injury, there is an army of drug-takers who first became habitués through taking certain druggists' preparations that contain minimum quantities of these drugs, sold freely over the counters. Under the present law these are excepted from any but practically nominal control or regulation.

There are now about twenty-five hundred such preparations in the United States, and there might just as well be ten thousand, for they would still be within the law as it now stands. Any one of these preparations will eventually set up a drug tolerance. And in the end the people who take them are just as likely to establish a drug habit as if they were taking such drugs in any other way, even hypodermically.

But the people are now waking up to the immoral enormity of this whole drug situation and are beginning to realize the social waste and economic loss that it involves. It will not be long before public opinion is clearly crystallized, and will compel the authorities to undertake and put through a number of restrictions which, more than six years ago, I urged upon the medical and pharmaceutical professions of the State of New York. So I believe it perfectly feasible to kill the snake we have only scotched, if we could insure:

First, that no prescription be filled, or any preparation sold, that contains habit-forming drugs, except on the prescription of a physician, dentist, or veterinarian regularly licensed to practise.

Second, that every prescription be made in triplicate.

Third, that no prescription be filled more than ten days after date; that the name and address of the purchaser and the pharmacist be entered in duplicate in an official record furnished by the Local Health Board.

Fourth, that no prescription shall call for a quantity to suffice longer than three weeks.

Fifth, that separate quarters be provided in county and city hospitals for drug-addicts, and that the local health authority shall furnish to any addict, without charge, a prescription for drugs as deemed necessary by a Medical Health Office, the Health Commissioner's discretion being final in the matter.

And bear in mind always, that "pitiless publicity" is one of the most powerful of all the weapons we can employ against the venal poison vendor. The great, sane public can, almost invariably, be trusted to act expeditiously and with judgment when it is in possession of all the facts. If informed, it will not long tolerate iniquity.

Therefore, if without delay there could be brought about a preliminary friendly conference among all interests concerned in the drug habit,—including Government officials, State Boards of Health, representatives of the retail and wholesale drug trade, and representatives

of the medical profession,—with a full public discussion of all the various phases of the matter, much might be done to expedite the solution of the problem.

With the alcohol question an excellent beginning has already been made. It is only a beginning, however. Much yet remains to be done, for there still exist thousands of noxious alcoholic substitutes to be drastically dealt with. Oceans of the white poison, colored pink, or doctored mildly in the way that makes it possible, under the present laws, to conduct their sale openly, and in direct violation of the intent of the prohibitory restriction, are still available.

But reform will come ultimately. We are cutting off the dog's tail—a little piece at a clip. In the fulness of time we shall have the tail that formerly wagged the big American dog completely amputated.

In the meantime, however, the pernicious results of our wholesale poisoning by alcohol will have to be dealt with. And, as yet, there is not much more intelligence exercised in the treatment of victims of alcohol in our hospitals than there was one hundred years ago. There is the same lack of classification—the same neglect to employ definite medical treat-

ment. The same needless horrors are perpetrated—padded cells, confinement, deprivation. The same archaic moral suasion—the same “sobering up,” and the same penalization for the inevitable relapse.

Nothing is being done, either sociologically or medically to rehabilitate these men and women. And yet, that they can be rehabilitated, I have proved in thousands of cases—to the satisfaction of the most prominent medical men in the country.

Time and again I have published full accounts of this work. I have begged and pleaded with Government and State officials to establish hospitals qualified to give this definite medical treatment. I have offered to cooperate in every possible way in advising and instructing in these newer scientific methods.

I have done, and am doing, everything I consistently can to put the State and National authorities in the work of human salvage—and put myself out. All because I feel the pathos and the pity, the ignorance and the stupid, blundering inefficiency of our present antiquated and hopelessly inadequate attempts to deal with these vital and pressing problems.

For if alcoholics, as well as drug-addicts, were treated as they should be, with definite consideration for unpoisoning their pathologically saturated tissues, a very large proportion of the 20 to 30 per cent. of insanity admittedly due to alcohol would be prevented.

If proper remedial measures were adopted for eliminating the toxins engendered by alcohol, there need develop very few cases of delirium tremens or "wet brain" to break men's minds.

For where alcoholics are properly treated—with regard to their pathology—they rarely develop delirium tremens. Under proper treatment, few unfavorable mental conditions will ever arise.

So it would merely require intelligent handling of this subject to close, or radically reform, 99 per cent. of all public institutions devoted to the care of inebriates; it would depopulate one-half the sanitarium between the Atlantic and the Pacific.

Nor need that horrible fear of impending insanity, which is frequently the precursor of actual insanity, and which is, indeed, one of the chief causes of mental unbalance, ever again plague a drug, an alcoholic, or a nicotine victim, for this morbid apprehension is a

manifestation of a systematic toxic condition brought about by means as material as a cinder in the eye.

And as the cinder is removed by everting the lid and sweeping out the particle, so is the toxin removed by stimulating the cells and sweeping out their accumulated poisons. And with this cleansing comes rationality—normality.

And, finally, I am convinced that, for the good of humanity and for the welfare of the generations that are to come, the hopeless victim of alcohol and toxic drugs should be prevented from transmitting his instability.

The hopeless inebriate should be unsexed, not because of the danger that if left sexually normal he might transmit his alcoholic tendencies by heredity to his offspring, but because he is a liability at best, and to leave him normal adds to his potentiality for waste and evil.

Children born of alcoholic-tainted parentage are not specially likely, I think, to yield to alcoholic and tobacco tendencies, but they *are* likely to lack vitality and mental stamina, so that the probability of their making worthy records is small.

To save alcoholics is vastly less important

than to prevent their being born. This principle is being more and more generally recognized throughout the world. It stands behind sanitation and all preventive medicine, and will, before long, be recognized in connection with the problem of alcohol and drugs. Thus the battle against addiction will become, as the battle against tuberculosis has become, a campaign of education.

It is all so absurdly simple—so elemental—so obvious—that even the most patient-minded can not be blamed for resenting at times the apathy, the indifference, the lack of ordinary human intelligence displayed in dealing with this tremendously vital question of toxic addiction.

And yet, in the fulness of time, the truth must prevail. And the world generally must accept it.

With the dawning of that day there will come a cleaner, saner, sweeter life to men and women. The innocent child will no longer cower from the leering face of a demon-parent made mad by drugs. The tender-minded maiden will be spared the quick blow over the heart with the scorpion whip of a drunken lover's oath.

The care-harried mother will be safeguarded

from the pall of an incubus that has covered her like a great monster with brooding wings.

And the slow-flowing blood of years well-lived will be warmed in the long winter of a kindly, resolute old age.

If what I have here written, and what I have tried sturdily to do in all the best years of my life shall be, even in some small measure, instrumental in helping to bring this about, I shall be well content.

APPENDIX

THE RELATION OF ALCOHOL TO DISEASE

BY

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IN the simple heading of the subject-matter of this article there are contained such possibilities of facts and fancies, truths and errors, and wide differences of opinion, that it seems wise to define not only its meaning, but some of the words themselves. What is disease? To many people it is a definite, concrete thing which seizes one in its clutches, holds one captive or possesses one for a short time, and then if overcome releases its grip and one is free and in good health again. But disease is not an entity, even tho some agents, as bacteria, are living organisms. It is the lack of some processes which these agents overcome, and others which they set in motion, as manifested by disturbances of various functions of different organs in the body that make up some of our diseases. Our bodies are often

in a state of delicate equilibrium, and if some one gland fails to secrete, or secretes too abundantly, the resulting condition may become a disease. As health is a harmonious relationship between the various functions of different parts of the body, so disease is a disturbance of this harmony. The question of the relation of alcohol to disease becomes a question as to whether or not this narcotic if taken into the body can react on the various tissues and organs of the body to such a degree as to disturb the equilibrium of health. And, furthermore, can this disturbance of healthy equilibrium be permanent and the body acquire a lasting diseased condition?

HOW IT AFFECTS DIFFERENT MEN

Alcohol is classed here as a narcotic and not a stimulant, because we shall see later that alcohol is rather a paralyzer of functions, even when it seems to stimulate, than a producer of increased output from any organ. The time-honored idea that alcohol is a stimulant and that, if used in moderation, it is a tonic, is so ingrained in the average mind that it is with the greatest difficulty that men can be made to realize that even in what seems moderate doses it may injure them.

This is especially true as one sees men who all their lives have indulged moderately in alcoholic beverages from which seemingly no harm has resulted. The truth, perhaps, is best summed up by the old adage that what is one man's meat is another man's poison, and there is no question that the effects of alcohol in small or moderate doses is vastly different from its effects in large doses, or in long-continued, excessive use. Different human beings react differently to similar amounts of alcohol, and conversely, identical amounts of alcohol will affect different individuals in different ways, even when it poisons all of them. For instance, if alcohol sets different processes in motion which bring about damage to the individual, we find that in some persons it has injured the heart and arteries, in others it has affected the liver or stomach, leaving the brain and nervous tissues free from damage, while in still others the body in general seems to be untouched and the brain and nervous tissues suffer the injuries. It is not uncommon to see a man who has partaken freely of alcoholic beverages all his life with neither he nor his friends conscious that his intellect has suffered or deteriorated thereby, to find suddenly that his circulatory and digestive systems are seri-

ously and permanently damaged. On the other hand, many a drunkard has become a burden to his family and the community, with his personality deteriorated, his intellect rendered useless, while his circulation and digestion remain unimpaired, and he lives long years a nuisance and a burden to his environment.

Since I have made the distinction between moderation and excess in the use of alcohol, it will be well to define what is regarded as excess, and what moderation, in order that the effects of both may be considered. Physiologic excess, it seems to me, has been best defined by a brilliant Frenchman named Duclaux, who says that any one has drunken alcohol to excess who one hour after he has taken it is conscious in any way of having done so. If after a drink of any alcoholic beverage has been taken, wine, whisky, or whatever it may be, an hour later we feel ourselves flushed, tongue loosened, or if we are heavy and drowsy or, if we find our natural reserve slightly in abeyance, if the judgment is not as sternly accurate as before partaking of the beverage, if the imagination is unusually active and close consecutive reasoning not as easy as before, if we think we do our work much better, but next morning realize we

haven't accomplished quite as much or done it as well as we expected, then we have shown a physiologic excessive intake of alcohol, and an amount which if continued will produce damage somewhere in the body. Moderation in the use of alcohol means that it be taken in amounts of which one remains unconscious. This may seem a narrow and hard line to draw, and may seem to confine the amount of alcohol that may be consumed to much less than many people wish to indulge in. How much in actual amount this should be with any given individual depends upon that individual alone, and no one can be a law to any other individual than himself. If a man be engaged in severe manual labor or muscular exercise, he can consume more alcohol without detriment than when leading a sedentary life, altho the character of the work that he will do may not be as good as if no alcohol were taken.

THE MODERATE USE OF ALCOHOL

The above definition, however, must suffice. We must fix some standard between moderation and excess, and the more accurately we define moderation, the more narrowly do we confine it. Judged by the above standard, al-

cohol taken in moderate doses does not seem more than to stimulate the digestive processes of the stomach, increase the flow of blood through the heart, increase the circulation in the periphery and skin, dilate the capillaries, and make it easier for the circulation to complete its cycles. When absorbed into the body in such doses, it can act as a food, and, in fact, as much as is burned up by the body does act as a food, altho it differs from other foods in that it is never stored up. It can replace in energy-giving properties sugars or fats, and being burned up by the body can give out the equivalent of sugar and fat in muscular energy, and heat generated and given out by the body. Its effect is similar to that obtained by sugar and fats which are taken up by the body when needed and in the amounts requisite to the body at the moment, and it seems to be treated as far as can be seen as other foods for fuel. But it is not an economical fuel, because the human organism does not perform its work as well as when there is no alcohol in the ration. Simultaneously, when being consumed as food, it is exerting its drug action. In this process it is the more easily available, and thus the sugar and fats are stored up while the alcohol is burned up; it

spares the fat consumption, often causing an increase of bodily weight through the putting on of fat. To those who are accustomed to its use, it seems also to spare the protein consumption of the body, but to those unaccustomed to its use it has the opposite effect, increasing the destructive breaking down of proteins.

DANGER SIGNALS UNHEEDED

Moderate indulgence in alcoholic beverages adds to the pleasures of existence with a great many men, and while it seems to increase their pleasures and broaden the extent of their mental experiences, it can not be said to increase their powers of accurate mental activity, tho it temporarily increases the imaginative flow of ideas. It relieves the feeling of both body and mental fatigue for the time being, an effect which may be an advantage or may be a distinct disadvantage, for fatigue is Nature's warning when to stop, and if we dull ourselves to this feeling and leave the warning unheeded, we may easily go on to harmful excesses of overwork and over-exertion. It is doubtful if the moderate drinking of alcohol, as we have defined moderation, sets in motion processes which may so disturb the equilibrium of the body as to cause disease.

Broadly speaking, the excessive use of alcohol injures the body in two ways. It injures the functional cells of the different organs, for alcohol is distinctly a cellular poison, and it further disturbs the nutrition of the organs by its injurious action on the blood-vessels which supply nutrition to the various parts of the body. Whether to replace the destroyed cells or as a result of the congestion, there is also an increase in the connective tissue framework of the various organs. The action of alcohol on the circulation is one of the earliest effects which is shown after it is taken into the body. The flushing of the skin is a beginning paralysis of the minute capillary blood-vessels. If habitually indulged in, the effect is a continuous dilatation of the vessels, altho it seems for a while in the early stages that there is a toning up of the circulation. Yet excessive indulgence brings with it always a lowering of the blood pressure and finally the chronic congestions in the internal viscera. The action of the heart at first is to make it beat fuller and stronger, but if continued, the effect is also one of paralysis of its muscle and a diminution of the output of work done, and finally it is a paralyzer of the heart's action. In some persons, through its

injury to the cardiac blood-vessels and intrinsic muscle of the heart, it sets in motion those morbid processes which result in angina pectoris.

Beginning with the stomach, we find that when alcohol is taken in excess it not only disturbs the processes of digestion that are then going on, if it is taken in greater amount than 5 per cent. of the stomach content, but it also acts directly on the mucous membrane, producing an irritant action. We have formed here a chronic congestion of the mucous membrane which produces swollen cells, and the digestive glands of the stomach produce an excess of mucus which interferes with digestion, and the resulting congestion interferes with the gastric secretions. It ends in producing a swollen, inflamed mucous membrane, often with hemorrhages. These processes may go on to an atrophic form of gastritis, in which the mucous membrane may be so atrophied that it is unable to secrete sufficient gastric juice. The acid of the gastric juice, combining with certain substances in the intestine, is one of the stimulants which causes the production of the pancreatic secretion. The pancreas not alone digests the meats and other proteids, but it changes starch into sugar, and also has

a fat-splitting ferment. Thus we see that pancreatic digestion is a most important function, and does much more in the digestive work than the stomach. When, therefore, the acids of the gastric juice are lacking, there is an insufficient stimulus to the pancreas to pour out its complex juices and complete digestion:

THE ATTACK UPON THE LIVER

Alcohol is so rapidly absorbed from the stomach and the upper intestine, that it does not as a rule produce much change in the small intestines. The absorption of the digested food from the intestinal tract by alcoholics when recovering from a debauch is greater than normal, provided they have ceased from their alcohol. The absorbing powers of the intestine remain a long time, and is the reason that so many alcoholics appear so well nourished. The acids of the gastric juice also stimulate the excretion of bile from the liver, and, combining with the same ferment, the secretion, being taken up by the blood, stimulates the liver to an increased secretion of bile. If, therefore, one has so injured the stomach with the taking of alcohol that the mucous membrane is unable to secrete a proper gastric juice, it is readily seen that

the proper stimulation to the liver and the pancreas are lacking and the equilibrium of the entire digestive process of the body is upset. The blood from all the intestines goes directly to the liver, the circulation of this organ being so arranged that the blood must filter through and bathe the liver cells before it is gathered into a central vein and returns into the general circulation. In fact the liver is the great chemical laboratory of the body, and the complex processes that go on there are as yet but little understood. The processes which I have described as generally characteristic of alcohol are seen to a very marked extent in the liver. There is a chronic congestion, and there is very frequently various forms of degeneration in the hepatic cells, and in many cases an increase in the connective tissue to such an extent as to cause the disease known as cirrhosis of the liver.

Alcohol may also under certain circumstances produce such excessive fatty degeneration in the liver as in itself to be a menace to existence, for if the liver ceases to do its proper work the whole minute nutritive chemistry, the metabolism of the body, breaks to pieces. The liver stands an enormous amount of use and abuse, and it is one of the last

organs to give way under great strain, but when its function processes do break down, the existence of the individual is not much further prolonged. The liver can consume and break down a certain amount of alcohol, but when more is poured into it than it can assimilate, some of it must go through into the general circulation and over the body, flowing to the brain and poisoning this organ and the other nervous tissues.

The action of alcohol on the nervous tissues constitutes, in the eyes of the majority, the main injury that alcohol does to a human being. Certain it is that the action of alcohol on the brain does more to distort and pervert a man's relationship with his environment than any other action which alcohol has on the body. It is through the poison of this organ that the personality of the individual is so changed and so poisoned that a degeneration of the individual in character and morals is brought about. It is here, too, that the widest differences of tolerance and intolerance to alcohol are shown. Some men may consume enormous quantities, and their mental balance apparently remain intact. Other individuals can not take a single glass of wine without being distinctly affected by it, or rendered

unmistakably drunken. The gross injuries found in the brain of those dying from the effects of alcohol are partly due to the effect of alcohol on the circulation and the injury to the blood vessels, thus diminishing the nutrition of the brain and injuring the brain tissue itself, and besides, as we have seen in other viscera, to the increase in connective tissue.

It is not necessary here to go into the details of the minute formation of the cells, how each cell is formed of a cell body and many branches, as one may conceive, growing like a tree or bush with the many branches stretching out and touching other branches of related and adjacent cells. When these dendrites or branches are in contact, there is an interrelationship between the processes of the two cells. Alcohol causes a retraction of the tiny branches one from another and the cells are dissociated, so that the mental processes become dissociated from each other and the cells themselves degenerate and are unable to carry on their functions; thus we see the functions of memory and of the reproduction of images by memory prevented, the inability of the mind to reason, through the inability of the mind to call up former experiences,

feelings and ideas, and a weakening of the power of each cell to take in impressions.

Every person who drinks alcohol to excess will not show every form of mental deterioration that may be produced by excessive indulgence, and the degree of deterioration in intelligence which goes to make up the sum total of mentality varies greatly in different individuals. All who drink alcohol to excess, however, show some diminution in their judgment. Judgment means the power of recalling various memories of perceptions through the senses, which have come in from the outside world, memories of ideas, memories of emotions, and all the complicated association of ideas that these bring up, and in the recalling of them weigh each one with the other and judge the value between them. This also means reasoning and decision for action. This power of reasoning and judging is weakened in the alcoholic, and in any brain long poisoned by alcohol it is an impossibility to exercise it. Memory itself is also weakened. There is excessive forgetfulness of the recent past, and in some cases of advanced alcoholism there is absolute forgetfulness of wide gaps of years; a man may be unable to remember anything from the last five minutes back for twenty

years, and then remember back to childhood. The memories of childhood are more easily stamped on the brain than are those of adult life, both because it takes less to impress a child, and because there is not the complexity of ideas crowding into the brain, nor the complexity of association of ideas to be recorded. Therefore, memories of childhood make a deeper impress and last longer, and so the complex memories of the adult are the first to be forgotten in the alcoholic, and those of childhood remain.

EFFECT UPON MEMORY AND JUDGMENT

Besides the absolute forgetfulness, there is another form of forgetfulness in the alcoholic which often produces a ludicrous result. This is a perversion of memory. The person may be in a perfectly strange place and meet strangers, and yet be convinced that he has seen the place and met the strangers before, and greet them as old friends. This feeling of having been there before occurs in normal, healthy people, and may be simply the expression of momentary fatigue, or proceed from some unknown cause, but it is grossly exaggerated in the alcoholic, and can not as

easily be straightened out as in the normal mind.

The imaginative faculties of the mind are at first heightened by alcohol, and this often produces bright, witty remarks in those who have taken enough alcohol to have their imaginations stimulated and their judgment slightly inhibited, so that their ideas crowd readily to their minds and their tongues are loosened. Often, however, they say things which, tho bright and witty, had better be left unsaid, and this is an indication of the beginning paralysis of their judgment. The imaginative faculties, however, are not constructively increased by alcohol, and it does not conduce to reproduction and creative ability, which requires memory and constructive thought. In this connection Kraepelin's experiments have shown that alcohol makes easy the liberation of movements from the cortical areas of the brain—that is, the transformation of ideas and memories of movements into deeds, but no real mental power is given, for while a man may feel that he is doing things better with than without alcohol, as a matter of fact he is not doing them so well. This sense of self-approbation is very characteristic of the alcoholic. His judgment is gone, not only in

regard to his mental processes, but very essentially regarding himself, and it may be truly said that while alcohol shrinks the judgment, it swells the self-conceit. This abnormally good opinion of his diminished abilities renders the alcoholic exceedingly complacent; he is persuaded that at any time he can give up drinking if he chooses, and he is unable to appreciate the rapid deterioration of his intellect. One can not separate the will of an individual from his personality, and the weak-willed individuals, while they may possess many other agreeable characteristics, are lacking in the progressive force which strong characters possess. Alcohol weakens the will, causes the personality itself to deteriorate, and there is a lack of initiative; there is the ever-ready specious explanation why nothing is ever done; there is a boastful, conceited estimation of what can be done. With the judgment perverted the alcoholic can not act at the proper time in the right way, no matter how much he may be willing to admit the necessity for correct action, and on the other hand he is equally powerless to prevent wrong action on his part, especially when such action has anything to do with a further indulgence in his alcohol.

The emotional side of the personality shows the same deterioration from the higher to the lower, as do the other intellectual processes. It is the same story that the last to come are the first to go, and the first to come are the last to go. All emotions of refinement, those of the esthetic development, disappear the earliest. The sense of affection and moral responsibility, duty to family and friends deteriorate and vanish. There is nothing left but the consideration of what affects the self, and an alcoholic is the most studied, selfish soul that exists. The remaining emotions of anger, fear and nutritional reaction for food and drink remain to the last, as these are the most primitive of the emotions. With the weak will preventing action, and with the loss of memory and inability for continuity of thought, we find the emotion of fear predominating to a very noticeable extent. This is true whether the alcoholic be delirious or not, for in all forms of alcoholic delirium, fear is a very predominant symptom. In some forms of delirium tremens, the intensity of the fear is a fair criterion of the degree of the poisoning. The various senses of sight, hearing and taste are dulled, because the cells producing the mental perceptions are equally poisoned with the rest of the mind.

WEAKENING THE MORAL FIBER

With the inaccuracy of sense perception and loss of memory and diminished judgment, one can not be surprized to find that alcoholics are notoriously inaccurate, unreliable and untruthful. They can not tell the truth even with assistance. But often what is credited to them as untruthfulness is mere inability to perceive things accurately, to remember accurately, and therefore to state things accurately. With the deterioration of the personality, that is, of the will, one would naturally expect that the deterioration of morals would go hand in hand. One can not remain moral or virtuous without sufficient will to do so, and without sufficient will to make a struggle for self-control, and this is so in the case of a mind poisoned by alcohol. I do not claim that lack of morals is a disease, but moral development has appeared late in the development of the race, and such racial development is exprest by the individual. With the deteriorated mentality of the alcoholic, we must expect that the characteristics of late development will be the first to go, and for this reason we must realize that alcoholism naturally tends to immorality and crime. As a matter of fact, it

is claimed that 50 per cent. of the crimes in France and 41 per cent. in Germany are due to alcoholism, and no doubt in England and America the percentage is equally high. As might be expected, the offenses are principally those of disregard of the rights of others, contempt of law and order, assault, disturbances of domestic peace and robbery, and to all these crimes the habitual drunkard is particularly prone.

But it is not my purpose to discuss the effect of alcohol in any way, except as it pertains to the human body, nor to go into the reasons why men so poison their bodies as to bring about these deleterious results. The deterioration that we have been considering, when occurring in the mind, would naturally cause one to infer that insanity must also be common in those who are addicted to alcohol, and such is indeed the case. In New York State alone I believe it can be safely said that fully 10 per cent. of the women and 30 per cent. of the men confined in the State asylums are there through forms of insanity caused by alcohol. It will not profit us to go into the various forms of alcoholic insanity, but when we realize that one-third of the men in the insane asylums to-day in New York

are there because of excessive indulgence in alcohol, and also that the State spends annually over six million dollars to care for them, we realize both the terrible ravages that alcoholic poison has made on the mentality of men and the enormous cost that it entails upon the community.

As to the alcohol circulating in the blood, there is an endeavor naturally to get rid of it as with all poisons, and the kidneys in this endeavor show the same processes that are elsewhere seen, of destruction of the specific cells, congestion, and increased connective tissue growth. Whether it is that these cells are destroyed in an endeavor to eliminate various substances for which they are not fitted and break down under the strain, or whether they are directly poisoned by the alcohol itself, the resultant factors are those best understood in the lay mind as acute and chronic Bright's disease. Whether or not alcohol produces these various processes in the kidneys which result in these diseased conditions, there is no question but that certain of these diseased conditions appear more frequently in alcoholics than in others. Besides the destructive processes about which we have been speaking in the various viscera,

there are certain results of alcohol that may be said to affect the general condition of the individual. By this I mean the general resistance to bacterial infection, the resistance to injury to the body, and the ability to repair such injuries. Alcohol diminishes the power of the body to resist bacterial infection. The alcoholic is more prone to acquire bacterial diseases, and when these are acquired he is infinitely less able to resist them. In Bellevue Hospital in 1904 there were 1,001 patients with lobar pneumonia. Of these 667 gave a history of alcoholism; 334 were non-alcoholics, which means that there were twice as many alcoholics suffering from this disease as non-alcoholics. Among the alcoholics the mortality was 50 per cent., and among the non-alcoholics 23.9 per cent. Here again the mortality among the alcoholics was more than double that which prevailed among those who had not taken this narcotic. The same is true of other infectious diseases. When injuries occur to the body, such as broken legs or arms, there is a very wide difference in the picture produced in those who have drunk to excess and those who have been sober. The shock produced in these instances is greater in the weakened nervous system of the alco-

holic, and among those who have habitually taken alcohol there is a very great tendency after broken bones to develop delirium tremens, and when this occurs in these patients, the outlook is always very grave. A broken leg or arm does not bring with it any such danger to those who have led sober lives. The process of recovery from disease and accident, owing to the deteriorated nervous system and the poisoned circulatory system, is much slower in alcoholics than in others.

WEAK WILLS INHERITED

Unfortunately, the injury which alcohol does and the processes of deterioration which it sets on foot do not end with the individual. Alcohol poisons and injures the germ-cells of both sexes, and the offspring of those addicted to its use may inherit a weakened and injured nervous system. The taste for alcohol, the craving, so called, is not inherited. This idea that, because a man has an alcoholic father or mother, he inherits the taste for alcohol is a superstition that has been used by the weak as an excuse both for overindulgence in alcohol, and as a further excuse why no attempt should be made to check their indulgence. What is inherited is a weak, unstable intellect

and personality, prone to excesses in all things, one that is weak-willed and weak in resistance to temptation, and one more easily affected by alcohol than the ordinary normal individual. There is also often inherited a lack of moral perception and moral sense, causing the individual to do things which make one doubt his sanity; yet he can not be called insane, but really wanders on the border line between mad and bad, which is often worse than insanity itself. Alcoholic inheritance does not stop at instability of the nervous system or weakness of the personality, and one is rather staggered to realize the high percentage of imbecile, epileptic and weak-minded children that may be born to alcoholic parents. A detailed study of the imbecile school-children throughout all Switzerland showed that 50 per cent. of them were born in the days nine months after the periods of greatest alcoholic indulgence, such as the New Year, the Carnival, and the grape harvest, and that the births of the other half of the imbeciles were evenly scattered through the remaining thirty-eight weeks of the year. It has been shown that in France, Germany, Poland and Switzerland, from 28 to 70 per cent. of the epileptics in some of the institutions were the descendants

of alcoholics. Demme, in comparing the results of the health- and death-rates between ten alcoholic families and ten non-alcoholic families, found that in the alcoholic families out of fifty-seven children, twenty-five were still-born or died in the first month of life; twenty-two were designated as sick, and ten as healthy—while in the non-alcoholic families, five were still-born or died early, six were sick, and fifty were healthy. Thus only 17.5 per cent. in the alcoholic families were healthy, while 82 per cent. in the non-alcoholic families were healthy, and only 18 per cent. not healthy. The percentages, therefore, were almost exactly reversed. These statistics mean that not alone may the chronic alcoholic bequeath his poisoned nervous system to posterity, but from the statistics in Switzerland of the imbecile children, we must realize that even a temporary debauch may leave a curse upon the innocent child; they also mean that alcohol produces those processes in the individual which tend to the degeneration of the race, and tend after a few generations to extinction, and thus does Nature benefit the race by turning a curse into a blessing through the extinction of the degenerate.

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